89th YEAR

AMERICAN GAS JOURNAL

JULY 1945

ence makes them

RIGHT!

Long experience in the field of gas measurement and control is typified by the key men in the EMCO organization. There are a number of employees with a half century of experience, one such veteran being pictured at the left.

ONTINUOUS RESEARCH ASSURES DESIGN PERFECTION

In the EMCO organization, planning a continuous process. EMCO research nd development engineers are always inking ahead of the times. EMCO ponsored fellowships at the Mellon stitute of Industrial Research and at e Armour Research Foundation follow rough on significant developments at will either enhance performance or add to the value customers receive from completed products.

Such technical advances, combined with the careful craftsmenship of an experienced group of employees, evolves in EMCO Meters and Regulators, products that in terms of service fully keep their engineering promise.

EMCO METERS AND REGULATORS

ITTSBURGH EQUITABLE METER COMPANY

lanta Houston
icago Pittsburgh
Kansas City

MERCO NORDSTROM VALVE CO.
Main Offices, PITTSBURGH, PA.
San Francisco

Los Angeles Boston
Tulsa Seattle
New York

National Meter Division, Brooklyn, N. Y.

CO Standard mestic Meter

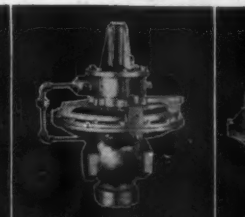
EMCO Tin Meter for Domestic Service

EMCO No. 4 Meter with EMCORECTOR

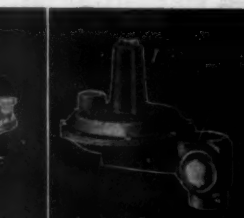
EMCO Large Capacity Pressed Steel Meter

EMCO Balanced Valve Pilot Loaded Regulator

EMCO Balanced Valve Regulator with EMCOLOADER



EMCO "1001" Regulator Standard Type

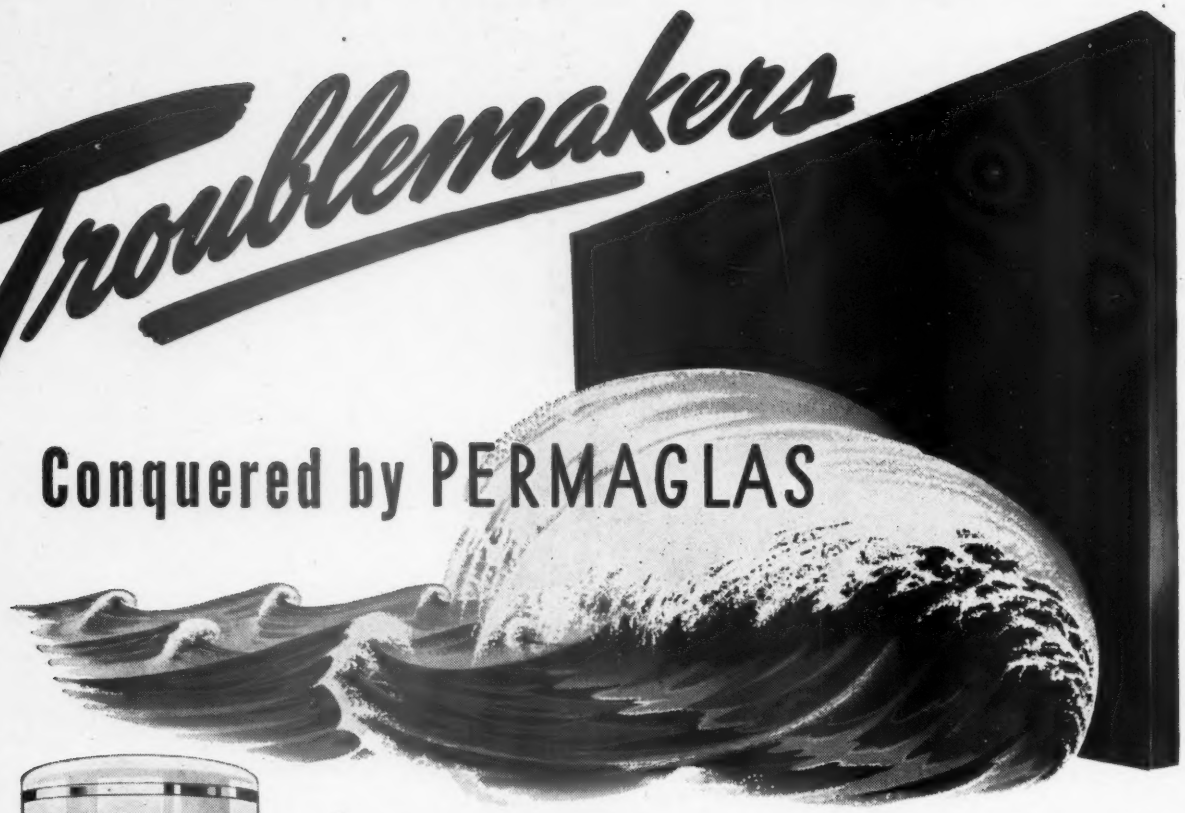


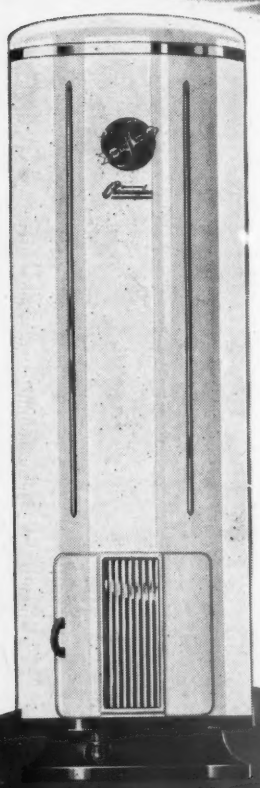
EMCO Type "B" Ejector Regulator

EMCO *Specialized* EQUIPMENT *for* GAS MEASUREMENT *and* CONTROL

Troublemakers

Conquered by PERMAGLAS



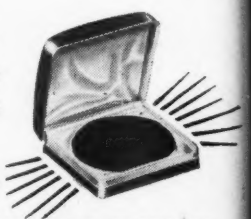


IN the course of the 23,000 test-years that led to the perfection of the *Permaglas* formula, troublemakers galore were found in every type of water analyzed by A. O. Smith laboratories . . . and even the worst of these troublemakers are effectively "stopped in their tracks" by *Permaglas.*

In some waters, for instance, tannic acid is a mighty bad actor! It attacks ferrous metals, forms a bluish-black ferrous salt, which acts like ink or dye. SMITHway engineers have fortified *Permaglas* to resist tannic acid and all the other weapons water uses to attack most water heaters. That's why hot water from SMITHway *Permaglas* Water Heaters is always clear and pure as the original source of the water itself.

There is only *one Permaglas* . . . the sparkling blue, mirror-smooth, glass-fused-to-steel, perfected only after long years of time, patience and a multitude of scientific tests that prove *Permaglas* conquers water's troublemakers.

Write for "The Inside Story of *Permaglas*" . . . a great sales aid.



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"HEATED WITH GAS, STORED IN GLASS"

SMITHway

Buy an Extra War Bond This Month

A. O. Smith Corporation
Dept. GA-345H, Milwaukee 1, Wis.

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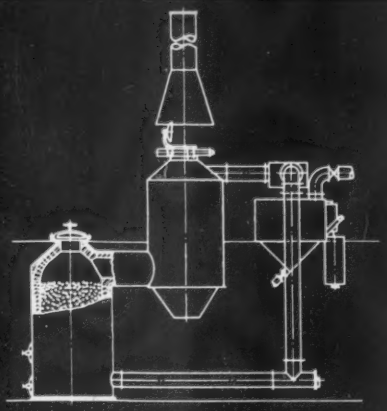
In Canada: JOHN INGLIS CO., LIMITED

SMITHway Permaglas
GLASS LINED
TRADE MARK REG. U. S. PAT. OFF.

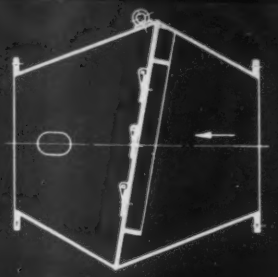
GAS WATER HEATERS

H

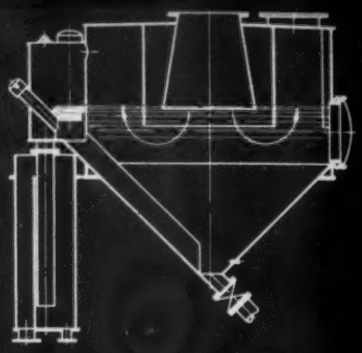
NAS



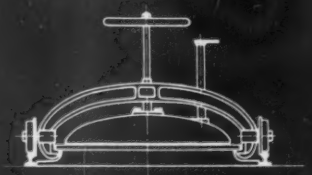
BLUE GAS MACHINE



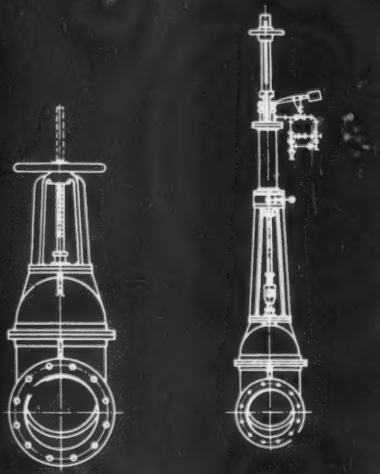
CHECK VALVE



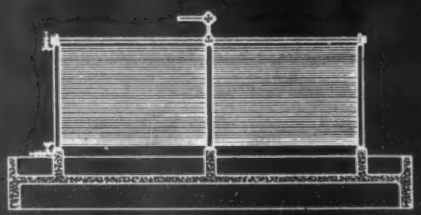
HYDRAULIC SEAL
OR
WASH BOX



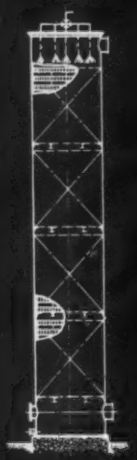
CHARGING DOOR



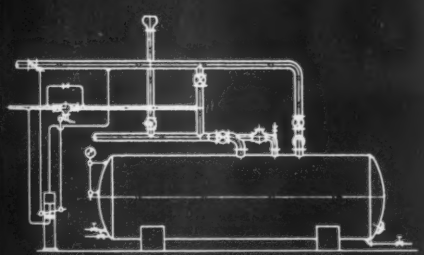
HAND OPER. HYDR. OPER.
GATE VALVES



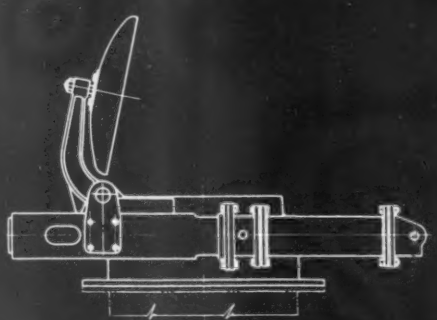
COOLING COIL



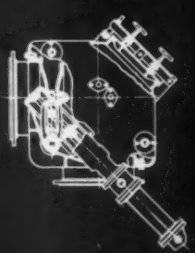
GAS SCRUBBER



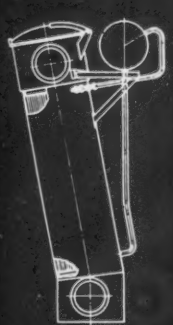
STEAM ACCUMULATOR



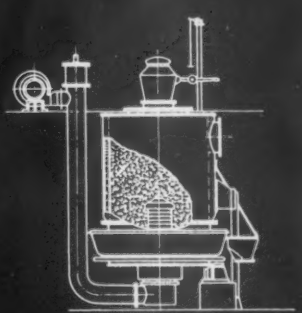
HYDRAULIC OPER.
STACK VALVE



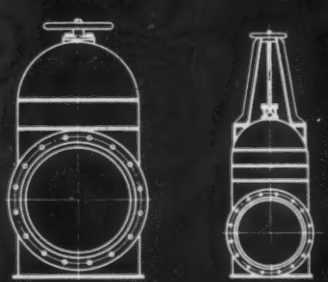
HYDRAULIC OPER.
REVERSING VALVE



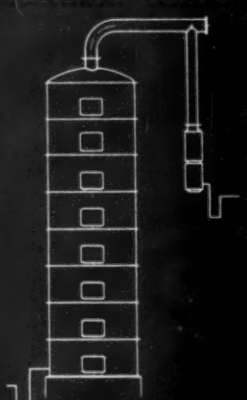
WASTE HEAT BOILER



GAS PRODUCER



BLAST GATES



DISTILLATION
EQUIPMENT

SEMET-SOLVAY ENGINEERING CORP.
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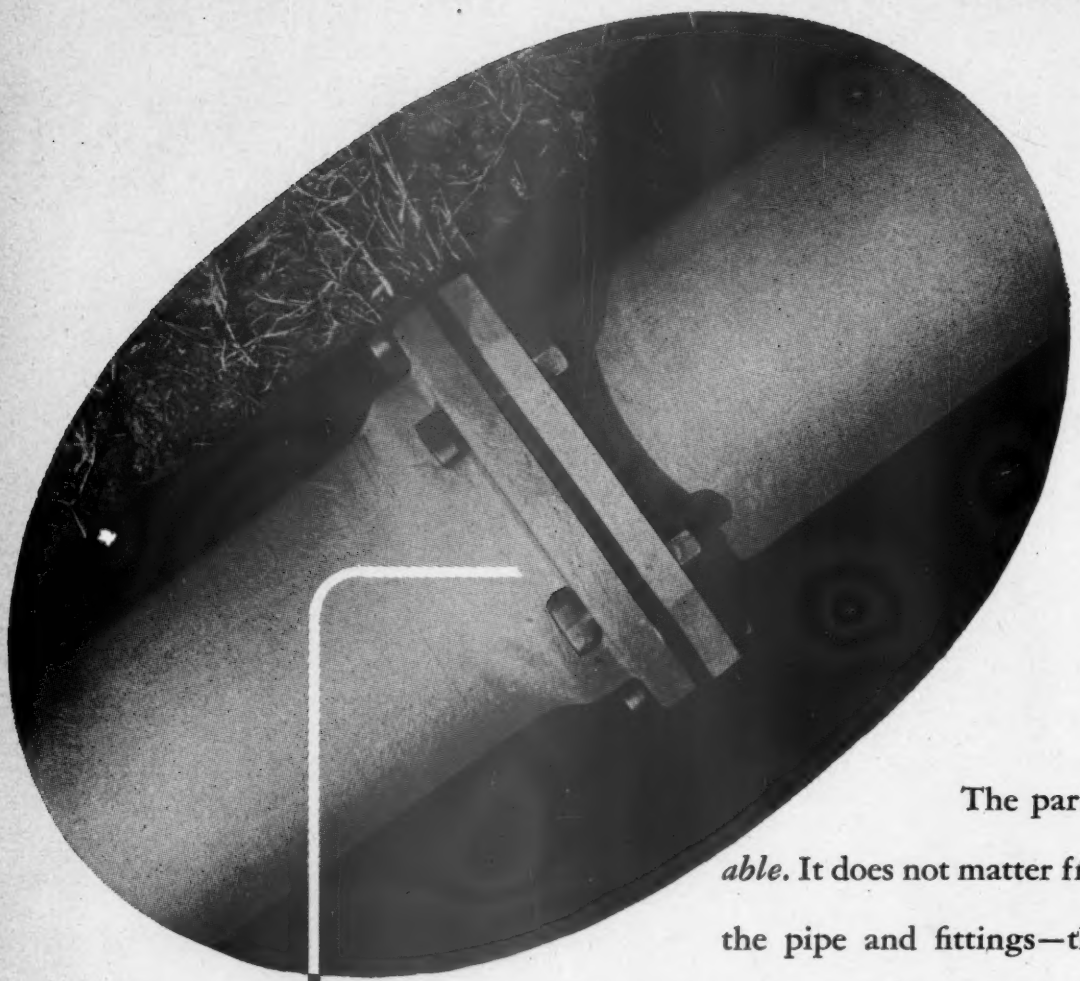
NEW YORK 6, N.Y.



NOW

The parts are *interchangeable.* It does not matter from whom you buy the pipe and fittings—the glands, gaskets and bolts will be *interchangeable.* No longer any need to stock different parts—no longer

THIS BOTTLE-TIGHT JOINT IS *Standardized*

any risk of delay on the job through delivery of wrong parts. The mechanical joint is now *standardized.*

An eminent gas distribution engineer has said that there are three great chapters in the contribution of cast iron pipe founders to the gas industry. *First,* cast iron pipe itself, which made gas distribution in America possible; *second,* the development of the bottle-tight mechanical joint; *third,* the standardization of the mechanical joint.

All members of Cast Iron Pipe Research Association are now manufacturing the Standardized Mechanical Joint, with interchangeable parts, in sizes up to 12 inches. Larger sizes will be announced later. Cast Iron Pipe Research Assn., Thomas F. Wolfe, Research Engineer, Peoples Gas Bldg., Chicago 3, Illinois.

CAST IRON

Standardized **MECHANICAL JOINT**

PIPE

3 With gland in position, insert bolts and tighten partially with fingers.
4 Take ordinary ratchet wrench (only tool needed), tighten up bolts alternately (bottom bolt, then top bolt, and so on). That's all!

Reminding you that

DRESSER COUPLINGS

offer these 5 major advantages

plus

a complete line of types and sizes for use in...

- PRODUCTION
- TRANSMISSION
- DISTRIBUTION
- SERVICE

...ays to get "back to fundamentals" ...pipe joining. It pays to remember ... manifold advantages offered by ...resser Couplings when you have pipe ...ining problem. Behind Dresser are ...years of experience which save time ...d money wherever pipe is joined. Savings are not only during installa...on...or a few years hence—but for ...e life of the pipeline. Properly selected ...d applied, Dresser Couplings out-...st the installation...with the lowest ...intenance of any type of joint.

Today, Dresser has accumulated what ...s been called "the most complete set ...pipeline data in the world". Its bene...s are yours for the asking. On your ...t pipe joining problem, call us or ...e will be glad to help you.

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In Texas, 1121 Rothwell St., P. O. Box 16, Houston, Texas. In Canada: Dresser Manufacturing Co., Ltd., 60 Front St., West, Toronto, Ontario.

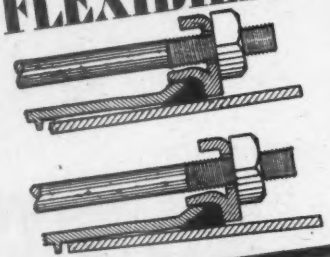
SIMPLICITY

—a few simple, interchangeable standard parts—which can be assembled only one way—make up Dresser Couplings. No skill is required—"pick-up" labor can make tight, flexible joints. Perfect pipe alignment is unnecessary.

SPEED

Dresser Couplings are assembled (not made) in the field—in any kind of weather—with a speed of two man-minutes per bolt. The only tool—a wrench!

FLEXIBILITY



Because gaskets are resilient, Dresser Couplings permit 4° deflection, or more, between pipe sections (depending on diameter) and up to ⅜" movement longitudinally. This means:

- no stresses accumulated in pipe
- "curves" with straight pipe
- easy assembly above ditch
- no exact grading of ditch

PERMANENT TIGHTNESS

Dresser Couplings stay tight for life of the line.

Many Dresser-coupled pipelines have given decades of reliable, trouble-free service. The first Dresser-coupled pipeline was built near Malta, Ohio, in 1891—and is still in operation today! Several other pipelines laid before 1900 also have been in continuous service.

ECONOMY

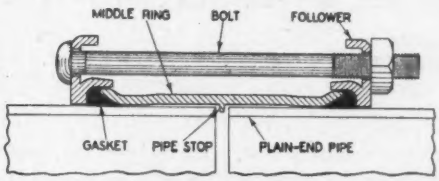
The true cost of a pipeline is not the first cost in materials and labor—but the *total* cost over the life period. Dresser Couplings give lowest cost *over the years*—here are a few reasons why:

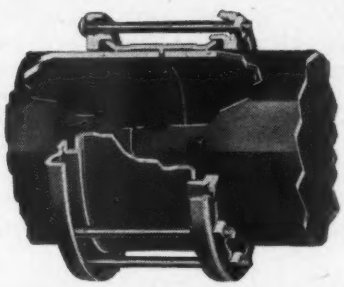
- Plain-end pipe
- fewer fittings
- a wrench the only tool
- low, uniform labor costs
- faster building of line
- reliability protects against leakage
- couplings may be salvaged.

D R E S S E R

There's a DRESSER COUPLING for any size pipe

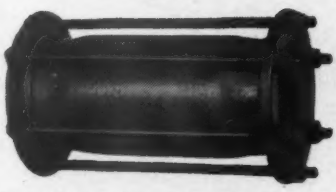
The cross section drawing below, shows the simplicity of a Dresser Coupling. Two resilient gaskets are held tightly between end rings, middle ring and pipe surface to make a permanent seal. (Pipe stop can be removed to make a union.)





Style 38 Steel Coupling for plain-end steel and cast-iron pipe, sizes ⅜" to 24" and larger. Design and number of bolts vary with size. 1¼" size (below) 12" size (left).

Style 85 "Bellmaster" Joint, for Bellmaster cast-iron pipe. Comes as a unit . . . is stocked as a unit . . . installed as a unit. Fits inside the bell—completely protected Size 3" to 12" CIP.

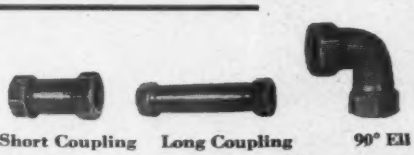


Style 40 Long Sleeve . . . to span gaps between pipe ends, as at final closures. Simplifies "tie-ins", machinery and equipment settings and "cut-ins" where pipe ends do not meet. ½" to 24" diameter.

There's a DRESSER FITTING for your small piping

BOLTLESS FITTINGS

These handy fittings offer flexibility and tightness to meet all requirements of services and other small piping. They are in use in thousands of installations. No threading, no exact pipe fitting are necessary. Just stab over plain pipe ends and tighten nuts with a wrench. Anyone can do it. Flexibility protects against leaks and breaks under normal (and many abnormal) operating conditions.



Short Coupling Long Coupling 90° Ell

Style 90 "Super Service" Fittings (steel) for underground or undersize pipe. Without a second in quality and efficiency for all types of service work.

Street Tee 45° Ell Cross Section

Style 65 "NO-THREAD" Fitting —(malleable, for exposed piping).

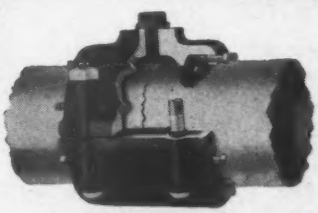
Style 84 Service Coupling (steel) offering many advantages of Style 90, at low cost.

Style 88 COPR-TUBE Fitting (brass) for copper tubing.

All Dresser Boltless Fittings come to you completely assembled—you need not take them apart to install.

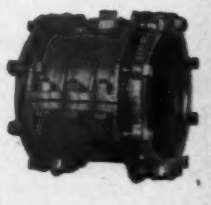
There's a DRESSER PRODUCT for any emergency

A complete line of repair clamps and sleeves is available to quickly stop leaks and breaks in your lines, without service interruption. The three styles shown here are typical—



Style 80 Ready-Pack Repair Sleeve, highly adjustable, fits off-size pipe. For 3", 4", 6" and 8" CIP.

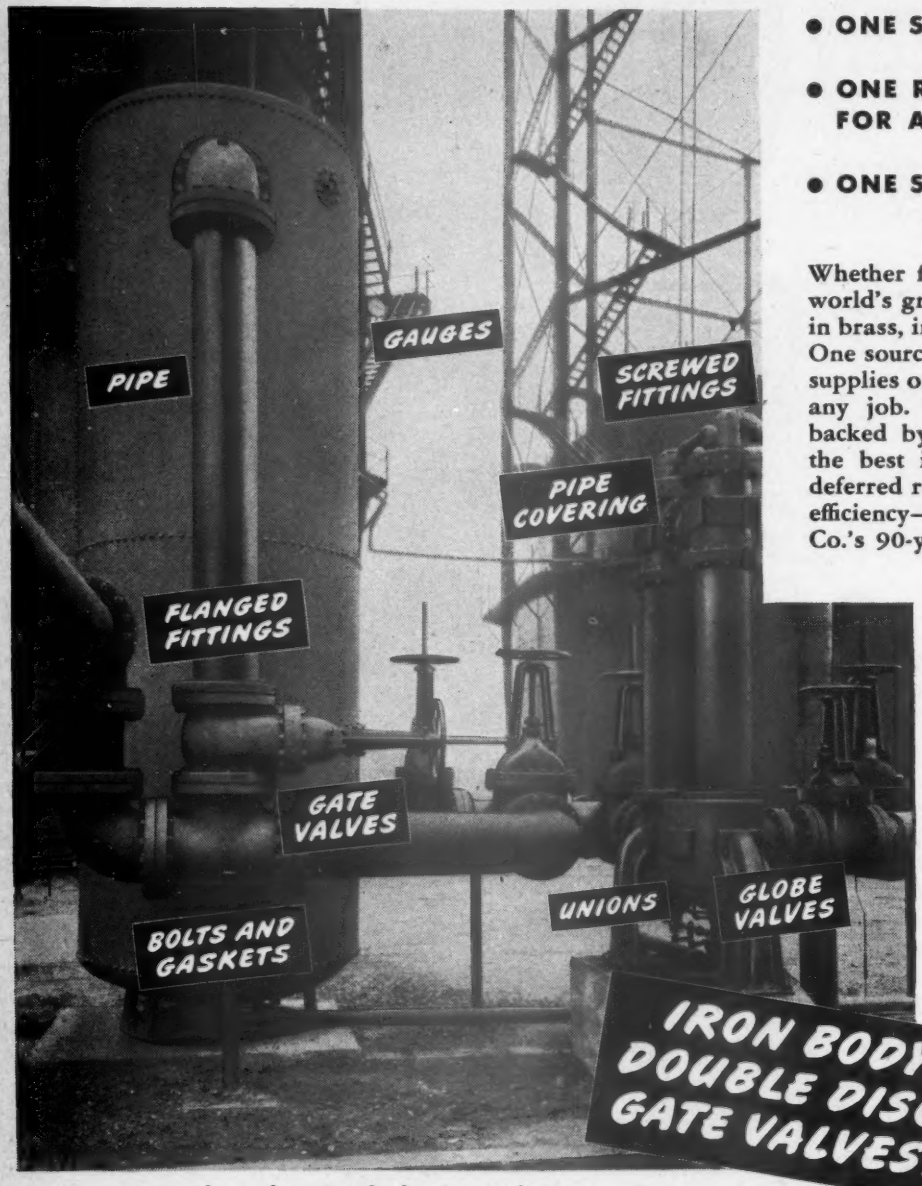
Style 60 Clamp for repairing bell and spigot joints; 3" to 60" sizes.



Style 57 Sleeve for repairing breaks in straight run of cast-iron pipes, 2 to 12" sizes.

C O U P L I N G S

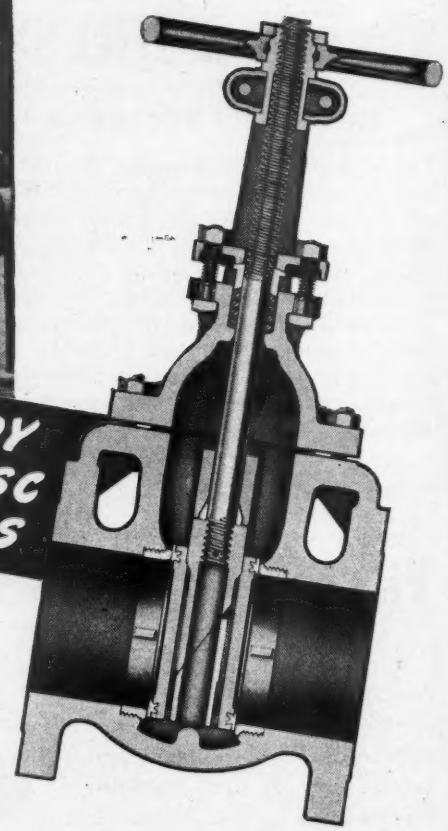
For All Gas Lines...Rely on Crane For All Piping Materials



After cooler and receiver hookup in gas plant

- **ONE SOURCE OF SUPPLY**
- **ONE RESPONSIBILITY FOR ALL MATERIALS**
- **ONE STANDARD OF QUALITY**

Whether for gas or any other service, for the world's greatest selection of piping materials—in brass, iron and steel—look to the Crane line. One source—your Crane Branch or Wholesaler supplies on one order all your requirements for any job. Uniform quality in all materials—backed by single responsibility—helps assure the best installation. A smart way to speed deferred replacements and keep piping at peak efficiency—while getting full benefit of Crane Co.'s 90-year experience in piping equipment.



SERVICE RECOMMENDATIONS:

Crane Iron Body Double Disc Gate Valves in pressure classes up to 800 pounds W.O.G. are widely used in the gas industry. Brass trimmed valves are recommended for water, oil and gas lines; all-iron valves for oil, gas and fluids that corrode brass. Made in O.S. & Y. and Non-Rising Stem patterns; with screwed ends up to 6 in.; with flanged ends up to 24 in. 500-pound valves up to 24 in., specially designed for gas-line construction, are equipped with spur-geared hand-wheel. Consult your Crane catalog for complete specifications.

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Ill. • *Branches and Wholesalers Serving All Industrial Areas*

CRANE

90 YEARS OF PROGRESS 1855 1945

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

VOLUME 163
NUMBER 1

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CONTENTS

Unique Construction Features Mark the Laying of Goleta Pipe Line — Fred A. Herr 11

Outstanding Developments in Gas Appliance Manufacture — A. W. Givin 16

Annual Convention Canadian Gas Association 25

Planning For Post-War Sales — George S. Jones, Jr. 31

Chemical Utilization of Natural Gas — Benjamin Miller 36

Modern Law Suits Unfolded — Leo T. Parker 41

Supreme Court Decision Extends F.P.C. Power Over Natural Gas 44

Independent Natural Gas Association of America 45

The Interstate Oil Compact Commission — Its Objectives 46

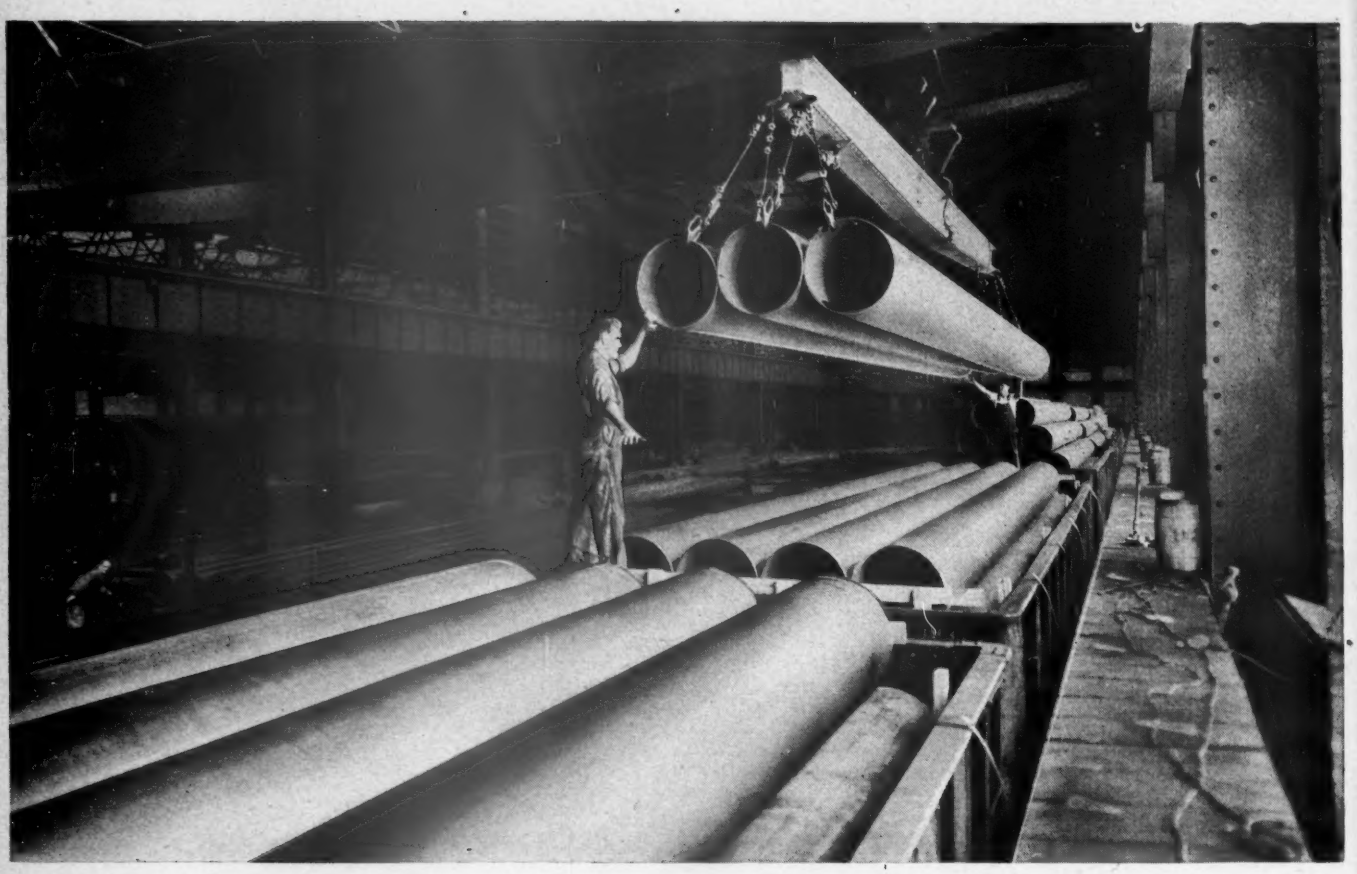
Training Appliance Salesmen — J. E. Bullard 48

Post-War Planning Committee, Indiana Gas Association 51

Public Service Co. of Indiana Files Petition 52

Book Reviews 53

News of the Gas Industry 54



Over Half of the New Goleta Line Is SMITH*way* Line Pipe

A. O. SMITH welcomes the addition of this new 105-mile, high-pressure (750 p.s.i.) line to the lengthening list of SMITHway installations.

The new line is operated by both the Southern Counties Gas Company, and the Southern California Gas Company of Los Angeles.

They selected SMITHway Line Pipe to do the job because of its special features—strength plus light weight . . . uniformity . . . plus consistent physical characteristics.

The 56½ miles of SMITHway Pipe are made up of 13 miles of 16″ pipe with 11/32″ wall thickness; 32 miles of 18″ pipe with ¼″ wall thickness; 11.5 miles of 22″ pipe with ¼″ wall thickness.

We consider this another vote of confidence in the outstanding performance record SMITHway Line Pipe has established over a number of years.

Buy an Extra War Bond THIS Month, Too

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Unique Construction Features Mark the Laying of Goleta Pipe Line

By Fred A. Herr

SOUTHERN Counties Gas Co. and Southern California Gas Co. of Los Angeles, co-sponsors of the four million dollar project, have completed construction on their new 90-mile pipeline for transmission of natural gas from the Goleta dry gas field ten miles north of Santa Barbara, Calif., to the Los Angeles metropolitan area.

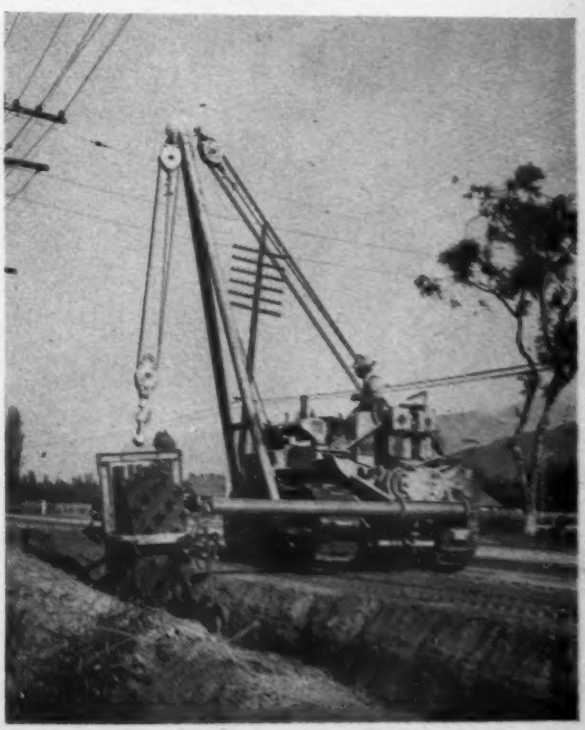
The extreme ruggedness of the terrain encountered in some sections of the route, particularly along the Southern Counties Gas Co.'s 35 mile sector of 16-inch line running southward from Goleta to Ventura, posed a number of difficult engineering problems which dictated the introduction of some new techniques in pipeline construction and designing of novel new equipment that should be of interest to the gas industry in general.

Of especial note, in that a decided departure from customary operations was involved, was the use of self-supporting catenary pipe spans to carry the pipeline across canyons in the mountainous sections of the northern part of the right-of-way. This new development in pipeline engineering, as well as the designing and construction of a unique type of sheepsfoot tamper which became necessary to meet State Highway Department requirements pertaining to tamping backfill in trenches, and other departures from the ordinary which were dictated by the circumstances of the terrain, will be treated in more detail farther along in this article.

Varying in diameter size from 16 to 18 inches, the pipeline traverses three of California's coastal counties in the south-central littoral of the state—Santa Barbara, Ventura and Los Angeles Counties—and links the Goleta dry gas field, a vast underground storage area in southeastern Santa Barbara County, with the metropolitan Los Angeles distribution system.

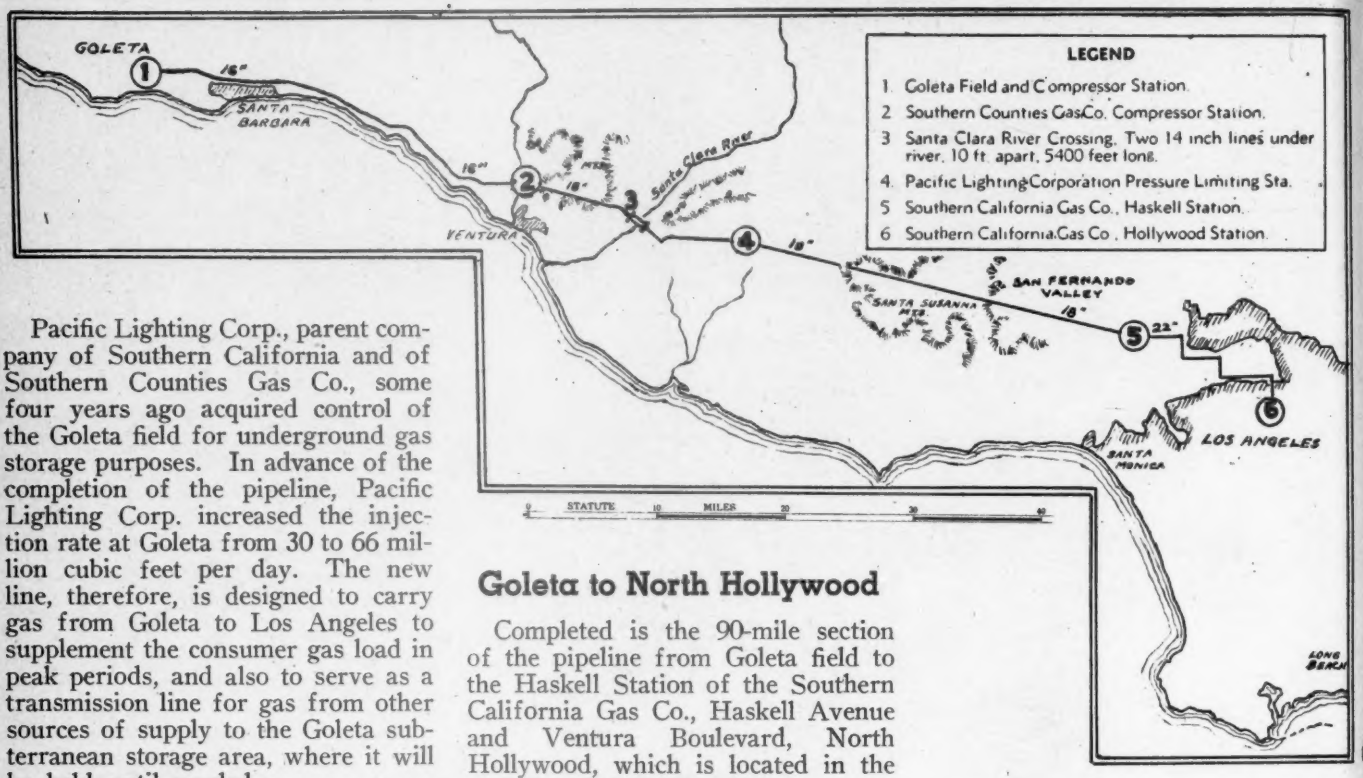
165 Million Cubic Feet Daily

The pipeline is designed to carry 165,000,000 cubic feet of gas per day to Los Angeles to supplement in periods of high demand the supplies the companies obtain from other sources. In addition to providing insurance against a shortage of gas at seasonal peaks (a striking example of which occurred in the winter 1943-44), the new pipeline is to be used for repressuring the Goleta dry gas field.



SHEEPSFOOT TAMPER

To meet California Highway Department requirements pertaining to backfill in trenches, this "sheepsfoot" tamper was built by the contractors to meet the special needs of this pipeline project.



Pacific Lighting Corp., parent company of Southern California and of Southern Counties Gas Co., some four years ago acquired control of the Goleta field for underground gas storage purposes. In advance of the completion of the pipeline, Pacific Lighting Corp. increased the injection rate at Goleta from 30 to 66 million cubic feet per day. The new line, therefore, is designed to carry gas from Goleta to Los Angeles to supplement the consumer gas load in peak periods, and also to serve as a transmission line for gas from other sources of supply to the Goleta subterranean storage area, where it will be held until needed.

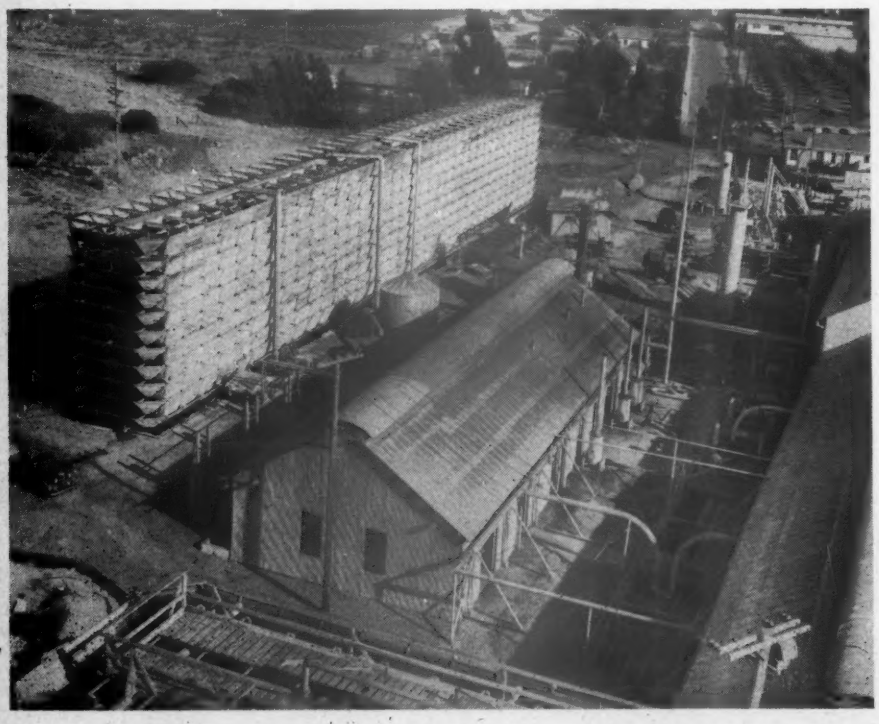
In laying the 90 miles of line from Goleta to North Hollywood, the installers encountered every conceivable type of terrain, ranging from paved city streets in Santa Barbara and easily worked highway borders, to solid rock, shifting sand and the most rugged type of mountain country broken by canyons. Construction was aggravated by the fact that the route passed through or across ten canyons, some of which the line had to span, and under two rivers, the Santa Clara and Ventura.

Goleta to North Hollywood

Completed is the 90-mile section of the pipeline from Goleta field to the Haskell Station of the Southern California Gas Co., Haskell Avenue and Ventura Boulevard, North Hollywood, which is located in the San Fernando Valley just across the Santa Monica Mountains from the Hollywood district of Los Angeles.

This project involves 35-miles of 16-inch line from Goleta to the Ventura compressor station of Southern Counties Gas Co.; and approximately 54 miles of 18-inch line from Ventura to the Haskell Station. An additional mile of the pipeline is composed of two 5400-foot twin lines of 14 inch diameter laid under the Santa Clara River.

Compressor house (center) and cooling tower (left) of the Southern Counties Gas Co.'s compressor station at Ventura, Calif.



Still under construction at the end of May were 11 miles of 22-inch line from the Haskell Station in North Hollywood to the Hollywood Station of the Southern California Gas Co. Being built by the Macco-Robertson Co. of Clearwater, Calif., under a separate $200,000 contract, this line passes up Nichols Canyon through the Hollywood Hills (which constitute the eastern end of the Santa Monica Mts.) and cuts under Hollywood Boulevard, Sunset Boulevard and intervening streets of the film capital, to a terminus at the gas company's station, Santa Monica Boulevard and Formosa Avenue.

Cost of the 90-mile line was announced as approximately $3,900,000 which, with the $200,000 cost of the 11-mile Hollywood section, brings the total outlay to $4,100,000.

To expedite the work and because their own engineering staffs were shorthanded, Southern Counties Gas Co. and Southern California Gas Co. called upon outside engineers and surveyors to assist in making the surveys for the line. Work on clearing the right-of-way was begun in mid-June of 1944, and had practically been completed when the first deliveries of pipe were made a month later.

Joint Company Committee in Charge

An engineering committee of Southern California Gas Co. and Southern Counties Gas Co. was in charge of preliminary designing and engineering details for the project. H. P. George, manager of production and engineering, directed construction work for Southern California Gas Co., with Fred E. Hough, executive engineer, serving in a corresponding capacity for Southern Counties Gas Co.

Construction of the Goleta-Haskell Station pipeline proceeded as two separate projects. Southern Counties Gas Co. sponsored work on the link extending southeast from Goleta to Ventura, and Southern California Gas Co. built from North Hollywood westward to Ventura, where the two projects were joined at the compressor station of the Southern Counties Gas Co.

Pacific Crane & Rigging Co. and Pacific Pipe Line Construction Co., both Los Angeles concerns, were joint contractors.

The Southern Counties Gas Co. project consists of 35 miles of 16-inch line which roughly parallels the coast from Goleta, through Santa Barbara, Montecito, Summerland and Carpenteria in Santa Barbara County. Southeast of Carpenteria the line veers inland toward the Southern Counties Gas Co.'s compressor station at Ventura, seat of Ventura County. The line includes 23 miles of seamless pipe with 5/16 inch wall, and 12 miles of 11/32 inch. National Tube Co. and A. O. Smith Corp. pipe was used.

As the Southern Counties Gas Co.'s 16-inch line moved southeast from Goleta toward Ventura, the Southern California Gas Co.'s 18-inch line (with construction handled by the same contractors) moved northwestwardly from Haskell Station toward Ventura.

From the level southeastern end of the San Fernando Valley near Haskell Avenue and Ventura Boulevard (US 101), the course of the 18-inch line parallels Ventura Boulevard in a general westerly direction along the base of the Santa Monica Mountains. At a point approximately opposite the settlement of Calabasas, pipeline and boulevard part company for the time being, the line continuing northwestwardly across the Los Angeles-Ventura County line, moving through the rolling Simi Hills to Somis in Ventura County, site of a pressure limiting station of the Pacific Lighting Corp. From Somis, the line proceeds to Saticoy and on to the Southern Counties Gas Co.'s compressor station at Ventura.

Striking view of the 16 inch pipeline crossing a canyon in Ventura County, north of the city of Ventura. Catenary spans of the type shown here were used on the Goleta-Los Angeles Pipeline Project to carry the pipe unsupported except at either end across canyons up to 420 feet in width.

14-Inch Line Under River

Types of pipe used in this section are as follows: 19.75 miles, 18 inch O.D. National seamless, 5/16 wall, weight 59.03 lbs. per foot; 34.25 miles, 18 inch electric welded steel pipe, one-quarter inch wall, weight of 47.39 lbs. per foot; and two miles of 14 inch, seamless, 5/8 wall, weight of 89.27 lbs. per foot. The pipe for this section was fabricated and supplied by National Tube Co.

Southern California Gas Co. used 89¼ lb., 14-inch pipe instead of 18 inch under the Santa Clara River. Twin 14-inch lines, each approximately 5400 feet long, were laid 10 feet apart under the stream bed and connected by manifolds to the ends of the 18-inch line. The procedure was to weld the pipe concurrently with the digging of the trench in the river bed and lower the pipe by means of sling-equipped cranes. In the actual crossing of the river the water was diverted across sections of the line already completed.

Catenary Pipe-Spans Used

Probably the most interesting phase of the pipeline job from an engineering standpoint was the use of self-supporting catenary pipe spans to cross small canyons encountered along the right-of-way west of Ventura. Since the catenary spans represented a new development in pipeline construction, considerable interest is reported to have been aroused by this feature of the project.

The catenary principle was employed to carry the line across canyons varying in width from 180 to more than 400 feet. At such points the pipeline projects unsupported across the canyon to the opposite wall, the only anchor being the ends of the main buried line at either lip of the canyon to which the suspended section is attached. The name "catenary" derives from the fact that the line sags across the canyon somewhat in the outline of a catenary curve, which develops when a flexible, inextensible, slender object is suspended by its ends.

Pre-bent sections of pipe were employed in effecting the connection or transition between the suspended and the main line. Work on the canyon spanning lines was not started until the buried section of the pipeline on either bank was ready to have connection made with the suspended link.

Temporary Pipe Towers Erected

Pipe towers designed for the job were built by the gas company to facilitate stringing the catenary sections of the line. Of temporary construction, these towers were 25 feet high and were equipped with cable pulleys attached to the cross beams. This type of tower was mounted on the

bank of the canyon toward which the pipeline was to be extended.

Strings of pipe were first welded in lengths sufficient to span the gorge. A pull cable next was attached about 75 feet from the forward end of the pipe, and a hold-back cable about the same distance from the rearward end. With the cable passing over the pulley sheaves of the pull-cable tower on the opposite bank, the long string of pipe was drawn across the gorge.

From a 25-foot tower mounted on the side of the canyon from which the pipe was being extended, a hold-back cable extended downward from the tower's crossbeam to a cradle holding the pipe as it passed between the uprights of the tower on its way across the canyon. The two cables served as temporary supports for the pipe after it had been pulled across the canyon until workmen could complete the tie-in welds at each bank. Removal of the cables then permitted the pipeline to sag into final position. The minimum radius of curvature in the majority of such suspended spans was reported to be about 800 feet.

A catenary span of the Goleta-Los Angeles pipeline being strung across a California canyon. Shown are the special pipe towers used for this operation.

Bending stresses which were caused by the curvature were eliminated after the span was in place by heating 7-inch wide bands at 20 foot intervals along the upper circumferference of the pipe.

Special Trench Tamper Designed

State Highway Department regulations, combined with the manpower shortage, were responsible for an ingenious on-the-job development. The California Highway Department requires that backfill in pipeline trenches paralleling State highways be air-tamped in four-foot layers. To comply would have required larger crews of men than were readily available.

Again drawing on the backlog of ingenuity, which the gas companies and the contractors on this job seemed to have available as needed, they designed a special type of tamper, called "sheepsfoot." The novel tamper consisted of a drum 5 feet, 6 inches in diameter, with a rim width of two feet. To the base of the tamper were welded 120 "sheepsfeet" in the form of blunt steel projections approximately five inches in length. Spaced at intervals of nine inches, the steel "feet" were arranged in a pattern on the base of the drum so that each square inch of the bottom of the ditch received 160 lbs. pressure per square inch from the 4,000 lb. machine (which satisfied State officials) as it rolled along the trench. In effect, the sheepsfoot tamper looked somewhat like a huge tire rasp of the type used by tire repair men in buffing the old tread from a casing preparatory to recapping it.

The tamper was moved along the trench by a caterpillar tractor which traveled on the adjacent highway. The tamper was attached to the tractor by a steel boom fitted with a flexible connection that allowed for the swaying of the tamper. The tamper could be lifted from the trench by means of a steel cable running over a pulley on a short tower rising from the side of the tractor. Two tamper units of that type were built for the project.

Pipe was laid in 40-foot strings and welded by the stovepipe method for the entire project. No welders were hired unless they could pass a rigid qualification test in the form of making a sample weld. Results of the sample work were judged and determined by tensile, back bend and nickbreak tests. Wrinkle-bend welding and bending machine methods were employed for bending pipe.

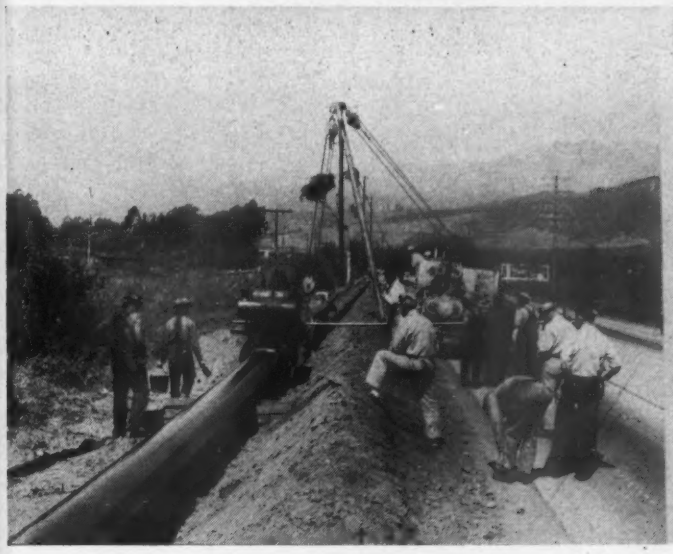
Devise Pipe Coating-Wrapping Unit

A lathe-type pipe coating and wrapping machine, capable of handling diameters up to 30 inches, was designed and built by the contractors for use in treating pipe. The unit was first used in the Santa Barbara pipe yard to treat 16-inch pipe for the northern section of the line, and later was moved south for work on the 18-inch line.

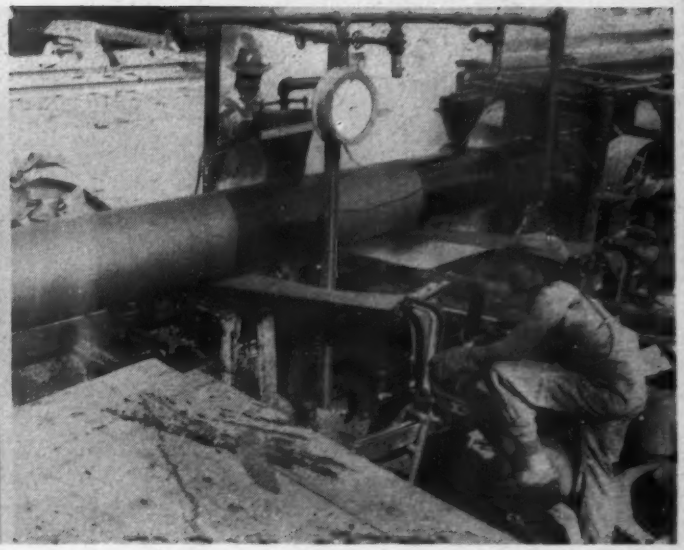
Field and yard phases of coating and wrapping followed the same general procedure. Traveling units for cleaning, priming, coating and wrapping pipe on the job site consisted of two Crutcher-Rolf-Cummings Co. machines. These included a cleaning and priming unit for removing mill scale and dirt and applying the primer; and a second unit for applying a coating of Barrett coal tar enamel and attaching the wrapping of 12-inch Johns-Manville asbestos felt.

Immediately preceding the laying of the pipe in the trench, the pipe section was swabbed and both ends capped (as a precaution against dirt and rodents entering the pipe), pending welding to the main line.

For the final cleaning job and interior finishing when the entire line had been laid, blowout stacks were set up at intervals of from 10 to 25 miles along the route. Steel grit then was forced through the casing with gas at 400 lbs. pressure per square inch, the blowout stacks serving as outlets for the gas and grit and the impurities that were removed.



Portable pipe cleaning and priming machine is shown in operation on the 16-inch pipeline of the Southern Counties Gas Co. line being laid southward toward Ventura.



Shown here is a lathe-type machine which the contractors of the Goleta-Los Angeles pipeline designed and constructed for coating and wrapping pipe.

Erect Pressure Limiting Station

In addition to the pipeline, the project included construction of various auxiliary facilities and expansion of existing ones:

Pacific Lighting Corp. erected a pressure limiting station at its plant in Somis with a maximum operating pressure of 785 lbs. on the line from Ventura to Somis and 650 lbs. southward from Somis. At its Goleta compressor station, Pacific Lighting Corp. installed three 600 h.p. Ingersoll-Rand compressors to up total horsepower at that point to 1800 h.p. At its Ventura compressor station, Southern Counties Gas Co. installed new compression cylinders on its Cooper-Bessemer and Clark Brothers gas operated engines and also added new measuring equipment in the form of Daniels orifice meter fittings, American orifice gauges and Nordstrom lubricated plug-cock line valves.

New Meter Regulation Station

Another project, handled under separate contract by the Fluor Corp. of Los Angeles, involved erection of a meter regulator station at the Southern California Gas Co.'s Haskell Station, junction point of the 18-inch line from Ventura and the 22-inch line from the Hollywood Station. At Haskell Station, pressure of the gas coming from the 18-inch line is reduced for transfer into distribution mains.

On an 85 by 127 foot site, Southern California Gas Co. now has in operation one of the finest equipped meter regulator stations in the West. The orifice meters are located in a five-foot deep concrete pit which is topped by a 40x50 foot soundproofed, insulated, stucco building. The structure also houses office facilities for the operators and a machinery room for calorimeters and other equipment.

In advance of the completion of the pipeline, Pacific Lighting Corp. had finished work on laying intrafield lines at Goleta and installed dehydration equipment at the intakes for removal of moisture from the gas before it enters the pipeline. The dry gas well drilling program, under which Pacific Lighting Corp. agreed to drill four additional wells at Goleta, also is reported to be progressing satisfactorily, with several of the wells already completed.

FPC Grants Use of Four New Compressors

As a war emergency measure to supply additional gas to the Appalachian area during the coming winter, the Federal Power Commission has issued a limited certificate of public convenience and necessity to Tennessee Gas and Transmission Company, Houston, Texas, to operate under lease from Defense Plant Corporation, four new compressor stations totaling 33,600 horsepower to be built by DPC; and to construct and operate additional cooling equipment, scrubbers and compressors at five existing stations. The new stations will be built in Washington County, Mississippi; Hardeman County, Tennessee; Robertson County, Tennessee; and Montgomery County, Kentucky.

The project is to be completed before the coming winter. Orders for the machinery and equipment to be installed in the four new compressor stations were placed with manufacturers in the name of Defense Plant Corporation, and it is understood that a substantial portion of such machinery and equipment has been already received by the Applicant.

The new facilities will increase the delivery capacity of the Tennessee system into the Appalachian area by 60,000,000 cubic feet per day to a total of 268,000,000 cubic feet daily, and the additional gas will be sold for war production and essential civilian purposes.

"There is no doubt from the evidence before us," says the Commission's opinion, "that during the past winter a severe shortage of natural gas was experienced in the Appalachian region, necessitating frequent curtailments and interruptions in service to industries engaged in vital war production and threatening service to domestic and commercial consumers."

The opinion states further, however, that "Careful consideration of the entire record leads us to conclude that the public convenience and necessity has been shown for the duration of the war emergency period only." Accordingly the life of the certificate is limited to that period.

Vice Chairman Leland Olds dissented from the majority on the ground that the evidence of record did not show an urgent wartime necessity for action on the Tennessee Company's application.

Outstanding Developments in Gas Appliance Manufacture

By
A. W. Givin
Vice-President in Charge of Sales,
Gurney Foundry Company, Limited,
Toronto, Ontario

WHEN I was approached by Mr. Durgy to give this paper there were two things occurred to me that might make the job a rather difficult one.

One was that Mr. Connor immediately preceded me on the subject of "Improvements in Gas Research," and I felt that undoubtedly he would touch upon things that would affect performance, such as burner designs, kitchen ventilation, single point ignition, and would render any remarks of mine superfluous.

However Mr. Connor sent me his paper so that there would be as little complication as possible.

I find myself, however, confronted with presenting to you a subject on which, because of the very nature of things, my information is bound to be limited. I am not a mind-reader and I have not the necessary ability, nor have I had the opportunity, to pick the brains of my competitors or my American contemporaries in the gas appliance business. No matter how complete the confidence that has been built up through association, there are still such things as trade secrets, which no manufacturer feels justified in divulging to a competitor, or even an associate. I do not find anything to complain about in this attitude, because individuality and personality, and particularly personality, are priceless assets in a product, as well as they are in human beings, and for anyone to expect them to be promiscuously broadcast on an occasion such as this is not only ridiculous, but highly presumptuous. It is, therefore, not only possible, but very probable, that when the barriers have been lifted and the Go-as-you-please sign is up, that there will be many outstanding developments and improvements brought to light by manufacturers of gas appliances that I have not, nor could be expected to have, knowledge of. If I may be permitted to twist the words of the immortal William Shakespeare to my own requirements, I would say, "There are probably more things under the heavens and in the earth of the gas appliance business than are dreamed of in our present day philosophy."

I find my present position somewhat well illustrated in the following story. In one of that great fleet of merchant ships which plied the Northern Atlantic in the early days of this war, and which have immortalized the name of Merchant Marine for all time to come, there was a seaman who was very clever at sleight of hand. He had a parrot who was his constant companion and which he had trained to come out with witticisms at the psychological moment to add the necessary touch of humor to his act. When he made things disappear, or pulled a rabbit or something else out of somebody's sleeve, the parrot would pipe up with, "Well, I'll be the goat, what did you do with it?" or "Where did it come from?" One night the ship was torpedoed and the seaman, with a few of his shipmates, found themselves on a raft—after circling around overhead for some time the parrot located them and dropped down and perched on the end of a box. When the dawn came they were contemplating the scene in silence when all of a sudden the parrot piped up with, "Well, I'll be the goat, what did you do with the darn ship?"

Now as I understand that my job is simply to start a discussion and to outline particular points around which that discussion should center, and as we have some well known American manufacturers here, and practically a full representation of all Canadian gas appliance manufacturers, without further ado I will endeavor to outline to you, as briefly as possible, what I consider to be the outstanding developments that will be apparent in gas appliance manufacture in the postwar period, in the hope that my remarks will form the basis of a discussion that will benefit all concerned.

The Post-War Range

From the many surveys that have been made, from the many questionnaires that have been circulated, among all sorts and conditions of people, and principally from the housewives who after all are the ones who are principally interested in gas appliance improvements, especially gas ranges, it should not be difficult for us to determine that the outstanding developments and the improvements will be those that are not only desirable but are necessary, if gas cookery is to hold its place in the homes of to-morrow.

Now what are these things that Mrs. Housewife is going to demand from gas range manufacturers?

First and foremost, she wants a gas range that will give her the acme performance in the production of cooked foods.

Secondly, with a minimum of labour, and a maximum of safety and convenience, before, during and after the operation.

Thirdly, with a minimum of economy, commensurate with the results obtained.

Frankly, I don't believe that more than 10% of them will give a hoot for the third item within reason, providing the first two are perfectly satisfactory. In the past 25 years that I spent in the heating business before I entered the stove business, and from an experience which extended from Halifax to Victoria on the Pacific Coast, I can remember only

very few cases where complaints of excess fuel consumption were lodged when the house was adequately heated, but I have heard hundreds of complaints of fuel consumption from consumers whose homes were not comfortable, and I am convinced that the same thing applies, from the experience I have had, in the stove and range business. Therefore, I would say that of necessity, the outstanding development in gas ranges will have to center around a higher standard of performance, convenience and safety.

Now then, let's take a look at those factors which are essential in the accomplishment of this objective. Here again we can divide them into three parts, the top burners, the oven and the broiler.

Let's talk for a while about the surface burners. May I sound a note of caution here, we must not blind ourselves to the fact that we start with a handicap due to the fact that the very nature of the fuel with which we are dealing necessitates, or has up until the present time, the use of an open flame burner. The best brains in the gas appliance industry for many years have been devoting a great deal of time and scientific research development in this particular field, with the result that much higher efficiency is obtained to-day than was deemed possible 25 years ago. These high efficiencies are obtained with what, for the sake of a better name, I will call Standard Burners, with which we are all familiar.

Extensive experimentsnand research have been carried on at the A.G.A. laboratory in Cleveland, with 100% Primary Air and Non-aerated Burners. I am not going to spend any time on this because Mr. Connor has mentioned it in his paper, and will, no doubt, have something to say to you in the discussion period following, that will be much more enlightening than anything I can tell you.

Radiant tube burners, perfected for use in gas furnaces and process work, are also a possibility for top burner and oven burner duty, and, in my opinion, a necessity. There is, however, a patent held on this type which has prevented full research.

We have come a long way in top burner design and performance, but we still have a long way to go to reach the ultimate of perfection. But, having lived in an age which has seen the development of automobile, wireless, radio and the acroplane, I am a firm believer that not too far in the postwar period that one of the outstanding developments in gas appliance manufacture will be a new and improved surface burner, which will transcend in performance anything which we have at present.

And now let us deal with that particular part of the gas range, which I think you will agree is the most important part of it—I refer to the oven.

I don't think I am open for contradiction when I say that the oven can create more goodwill and give greater pleasure and satisfaction if right, and at the same time be the cause of greater dissatisfaction and annoyance, if wrong, than any other part of the range.

A perfect oven is one that will reach the pre-heat stage in the shortest possible time and with a minimum of economy in fuel consumption. Be maintained constantly at either the highest temperature or the lowest temperature required for various types of cookery. It is one in which roasts, fowl, cakes, pies, biscuits, cookies, can be turned out with equal precision and perfection, and at whatever temperature Miss McQueen and her associates designate in the excellent recipes with which they are always providing Canadian and American housewives.

In order to accomplish this at all times, and I wish you would not pass by too lightly those few words "at all times," we must have perfect coordination between the heat input, heat distribution and venting.

And probably most important of all, we must have accurate and as near as possible instantaneous control.

Those of us who manufacture both gas and electric ranges, and this applies to practically all Canadian manufacturers, know that the accomplishment is much easier in an electric range than in a gas range, for the simple reason, that when an electric element is on, it is on, and when it is off, it is off, which, as you know perfectly well, is not the case with a gas burner. It is perfectly obvious that as long as gas is being delivered through the thermostat to the burner, this gas must be consumed.

CP specifications which call for speed in pre-heating, as well as the maintenance of low-oven temperature for oven canning and specialty cooking, confronted the industry with a rather difficult problem. While they were able to meet the CP specifications with the inherent ingenuity which the gas range manufacturers bring to bear upon all difficult problems, certain objectionable results eventuated which while not affecting in any way the passing of the necessary tests at Cleveland, were objectionable and at times annoying. One of which, probably the most objectionable, was the difficulty in controlling a burner large enough to give the necessary heat input to meet the speed test, when approaching the preheat stage in order to prevent an overshoot anywhere from 25 to 50 degrees.

For some time past experiments have been conducted, just where I am not at liberty to say, with a double oven burner that will perform very much on the same principle as the simmer speed surface burner, which many manufacturers have been using for some time past, and with which you are all familiar. However, this has not reached a very satisfactory stage because of the difficulty in controlling both high and low temperatures with the thermostats which have been available up to the present time.

Thermostats

I have, however, been authorized to say, that extensive research and experimentation has been under way with a thermostat that will give desired results similar to that which has been available to the electric range industry for some time past, which controls both the upper and the lower burner through a single dial control. This control is a combination of snap thermostat and of throttling control. In the pre-heat operation both snap action and throttling valves would be wide open, when the dial setting is obtained the snap thermostat will close and temperature maintenance is obtained through the throttling action only. The throttling side of the thermostat would be connected to the burner section built just large enough to maintain oven temperatures, thus giving the advantage of straight line throttling thermostatic control as well as the possibility of very low oven temperatures for specialty cooking.

Now we come to that part of the gas range that has not received as much attention as it should have, both from manufacturers and utility companies, but which is becoming

more important as the propaganda of the Home Service Directors in favor of broiled meats versus fried meats takes hold of the public fancy.

Broilers

High broilers and low broilers, broilers using the oven element as their heating medium, and broilers with separate burners, have been offered to the public in prewar days.

Broilers with pans and griddles so designed as to obviate the possibility of fats and greases catching fire are quite common.

From inquiries which I have made from men who should know, it is my considered opinion that not more than 10% of the consuming public are particularly interested in broiling.

However, Miss McQueen and her associates I am quite sure will have something to say on this subject during the discussion period and I am going to leave it at that.

I have purposely refrained from any reference to lighters either in connection with surface burners or the oven and broiler, because I consider it a matter of such paramount importance as to be worthy of individual reference, in the hope that in the discussion period, it will receive concentrated and keen attention.

I hope that we will not emulate the attitude of the ostrich, by burying our heads in the sands of complacency and blind ourselves to one of the most obvious handicaps which we have to overcome when considering the competition which we will have to face, more especially I believe in Canada, from the electric range.

To turn a switch, get immediate response, speed equal to anything we have yet been able to attain in gas range manufacture, with no visible flame and no possibility of objectionable odor, places us under a handicap, right from the start, which we cannot and should not overlook.

This then brings the question of instantaneous and infallible automatic lighting for both surface burners and oven burners to the category of a "must" in the postwar period.

Ignition

You are all acquainted with the experiments that have been made on single point ignition—we know that the A.G.A. laboratory at Cleveland, and many manufacturers in their own labs, have been experimenting with this much to be desired feature, and I believe some manufacturers will feature it in postwar, but unless something has been accomplished of which I have no knowledge, we are still some distance away from this much to be desired feature, that will perform successfully on all gases.

I would like to have announced it as one of the outstanding improvements in gas range manufacture, but because as far as my knowledge goes it has not yet been brought to the point where it is 100% safe and reliable, I am afraid I will have to pass it up. I do, however, mention it, because I would like to hear, as I stated before, some real discussion on the subject. I also believe that all difficulties will eventually be surmounted and it will become a reality.

CP Ranges

I know that you have been waiting for me to say something about CP Ranges, and I would like to quote from a letter written by Mr. Sorby, of the John D. Roper Corporation, to Mr. Wallace F. Chamberlain, Sales Manager, Michigan Consolidated Gas Co., and Chairman of the Domestic Range Committee of the American Gas Association—I quote:

> "We do not see much opportunity to improve CP requirements in the immediate postwar period. CP improvement requirements as such, because of engineering research and tool and die change costs, should find their place in the scheme of things in the so-called after postwar CP Gas Ranges."

Personally I am very much in accord with the sentiments expressed by Mr. Sorby, and as I see him present here today, no doubt we will hear something from him relative to this at the discussion period.

One of the problems confronting the gas range industry generally, was, of course, that of the temperatures released in the kitchen from both the surface burners and the oven when operating, resulting in high kitchen temperatures, especially during the summer months. When the CP Range first made its bow, it was deemed that one of the objectionable features of the gas range was the unsightly fumes pipe venting the oven, and in the case of closed top ranges, the burner box, to the outside atmosphere. If electric range cookery had not become the chief competitor of gas, this objection might never have been apparent.

Venting

After considerable research and experimental work on the part of the A.G.A. laboratory at Cleveland, also by individual manufacturers, a much improved burner for both top surface and oven was produced, by which combustion was improved to the point where the carbon monoxide hazard was practically eliminated and it was deemed safe to vent the oven directly into the kitchen.

As long as we were venting our ovens directly to the atmosphere, and thereby carrying away most of the heat of the oven not used in cooking, it was possible to reduce this objection considerably by new and improved methods of insulation, thus reducing surface temperatures to the minimum. With the advent of the CP Gas Range, manufacturers therefore found themselves in this rather paradoxical position—we were spending money and ingenuity in an endeavor to insulate, to reduce surface temperatures and then belching all of the residue of the heat from the oven not used in cookery directly into the kitchen which we were trying to keep cool.

I am going to close my remarks as far as gas ranges are concerned, with a general comment on "Design and Construction as it Affects Eye Appeal and Synchronization with the very elaborate plans which are being prepared and circulated broadcast by the American Gas Association on the 'New Freedom Kitchen'."

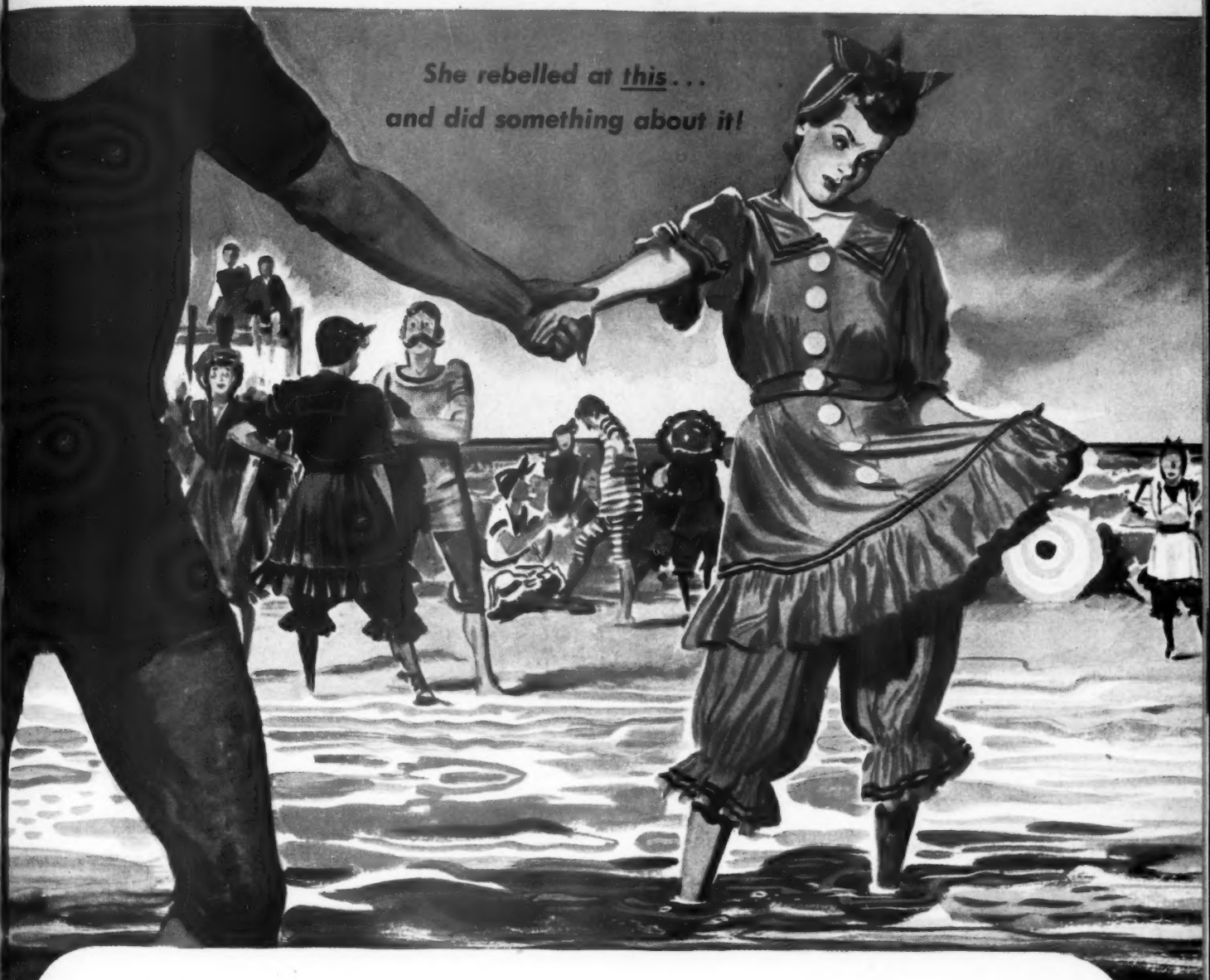
Just how far the use of substitutes for steel and porcelain enamel will enter into the postwar picture is something on which I would not care to express an opinion.

Other Features

There will, undoubtedly, be a lot of gadgets introduced. At some of the meetings which I have been privileged to attend, of gas range manufacturers, both in Canada and the United States, the question of deep-well cookers, pressure-cookers, has been discussed at some length—these, however, are not new, having been standard equipment on electric ranges for many years, as have also warming compartments of various designs, to keep plates and dishes warm and to keep foods warm while others are being prepared. These all will be featured, undoubtedly, but I doubt whether they could be classed as outstanding developments or improvements.

(Continued on page 21)

"What woman *wills*... will be"

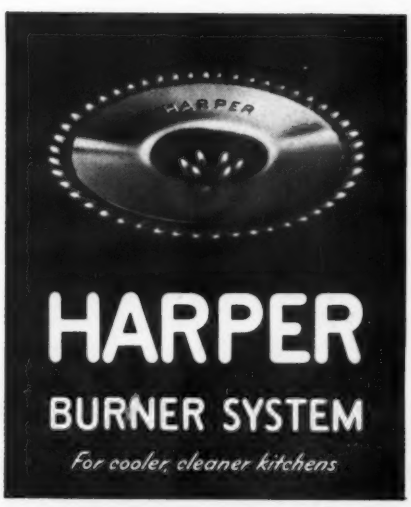


Today she wants modern top burners

IN THE POSTWAR de luxe range, ordinary top burners will be as antiquated as the bathing suit of the Nineties. A recent independent survey proved beyond doubt that the modern woman wants *modern* top burners . . . as exemplified in the Harper Burner System. And with good reason!

Each Harper burner is actually 2 burners in 1 . . . a burner within a burner . . . both operated and controlled by a single handle. The small, inner *cooking* burner can be used entirely independently of the outer *starting* burner. No other top burner possesses this vital advantage, which insures easy, accurate control—just the right heat for every type of top burner cooking.

The gas industry, through the AGA, is conducting a program of appliance improvement and promotion for cooler, cleaner kitchens. In the top burner field, the Harper Burner System meets these requirements.



Copr. 1945, Harper-Wyman Co.

On next page
WHAT USERS SAY

HARPER BURNER SYSTEM

is important to her because

4/5 OF COOKING IS DONE ON TOP OF RANGE

Gladys V. Babcock, 2132 SE 54th Ave., Portland, Ore., makes this significant point in stating her preference for a Harper Burner System equipped range:

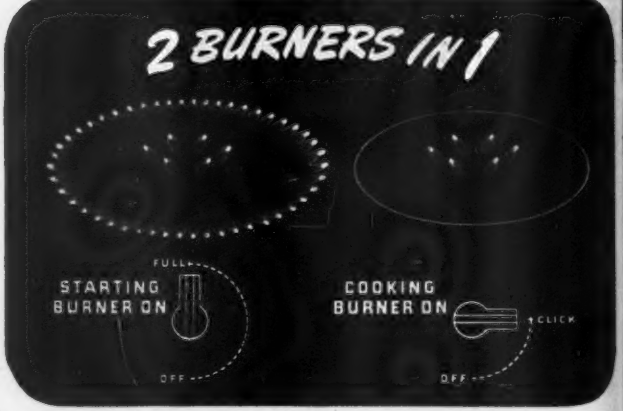
"When you consider that about four-fifths of all cooking is done on the top of the range, you realize the importance of the Harper Burner System. It has definite advantages, and you profit by them to a high degree because the top burners are used so much more than the oven."

Improvement where it Counts

ONE REASON the Harper Burner System has won widespread favor with the housewife is that it is a big improvement *where improvement counts* . . . on the range top where most of the cooking is done.

Here are a few of its advantages over ordinary top burners: less fuel consumption . . . a cooler kitchen . . . a cleaner home . . . less pot watching . . . less loss of important vitamins and minerals when cooking foods . . . less *guesswork* in cooking, thanks to the dependable, accurate *control* of heat. And all of these advantages are utilized where most of the cooking is done . . . where they *count*.

NOTE: A *new* and *improved* Harper Burner System is now available for range manufacturers who are producing de luxe ranges. Harper-Wyman Company, 8562 Vincennes Avenue, Chicago 20, Ill.



The Harper Burner System operates on the unique principle of "2 burners in 1" . . . a STARTING BURNER plus a small, economical COOKING BURNER, both controlled by the same handle. It is subject to finer gradations of low heats.

HARPER BURNER SYSTEM

"HOLDS THE LINES FOR GAS"

HARPER BURNER SYSTEM —*One of the standards of top burner performance under* cp

Some manufacturers I know are going to use glass to a considerable extent, especially in oven doors. Here again this is not new.

The company which I represent put out a range 25 years ago with a glass oven door. It wasn't too successful because the average housewife just wouldn't keep it clean. The result was that after a few months of use, especially where a lot of roasting in open pans was being done, it might just as well have been steel as far as transparency was concerned.

The glass industry, however, has made great strides in the excellence of its products since that time, and I have no doubt but that the use of glass will be adopted pretty generally in the postwar gas range.

This pretty well exhausts within the limits that I mentioned at the outset of this address, the developments that will affect performance. Let me reiterate that there are, within the ranks of this industry, some mighty clever, resourceful manufacturers who may have outstanding developments up their sleeves that it is not within my province to know of.

To sum up as far as gas ranges are concerned—I think the outstanding improvements in gas range manufacture that we can look for the immediate postwar period, are—

First and foremost, higher standard of efficiency and performance, both as regards surface cooking and oven cooking and broiling.

Higher standards of convenience and safety with which I would couple better lighting and more reliable lighting of both top surface burners and oven burners.

Higher degree of cleanability, both inside and out, mainly due to streamlined design, rounded corners in ovens and broilers, new and improved finish on burners that will facilitate the removal of spill-overs with a minimum of time and labor.

A higher degree of comfort in the use of gas ranges, owing to lower surface temperatures because of new and improved insulation features, plus kitchen ventilation.

Last, but not least in the view of the ladies, new and unheard of beauty in design and finish due to streamlining, not only of the range itself, but all of the accessories that go with it.

Now I am going to be presumptuous enough to sound a warning. This is in the nature of being double-barrelled.

The Market

No doubt many of you have seen the survey recently completed by the MacLean Publications and published quite extensively in their own magazine, and commented on quite widely by the public press, which brought out one very interesting fact, one which we think we cannot afford to overlook.

Approximately 90% of the people who contemplate either building or buying houses in Canada, in the postwar period, want small homes, the popular demand indicated was homes of five or six rooms, and the amount of money they wanted to invest in these homes ran variously from four to six thousand dollars. When we take into consideration what you can buy in the form of a house for four to six thousand dollars, should we not give serious consideration to how much of this money will be spent in the kitchen, and govern ourselves accordingly.

Also, the replacement business after the war will be a very important factor, owing to the curtailment which by Government Order has existed for the past five years. These ranges will not go into planned kitchens, but they must, nevertheless, offer equally high standards of performance, safety, convenience and cleanability.

In connection with the developments which I believe will be of interest to the industry generally, I would just like to mention one which will be of vital interest to Canadian manufacturers, and that is the arrangement that has been entered into, and subscribed to by every manufacturer in Canada, namely a voluntary agreement to curtail manufacturing to a definite number of models only.

To adopt certain standardized features on certain models.

To produce no models, no matter what the price range, without insulation.

To produce low priced models only insofar as it can be done by lowering cost of construction and finish, and to retain, in all models, no matter what price class, features of performance and safety.

These decisions were unanimously agreed upon at a meeting of the Canadian Institute of Stove & Furnace Manufacturers, held in Montreal last March, at which all Canadian manufacturers were present, and after consultation with a committee appointed by the Canadian Gas Association.

I do not wish to be in the position of the man who was so pessimistic that he would never go out without both a belt and braces, for fear something might happen and his trousers would fall down, but in the Readers Digest not long ago I read the following amazing statement as to what would be accomplished in the postwar period with electronics, from which I quote—

> "Radio is also going to run the postwar home, as new radionic inventions are put on the market. Here is an inviting preview:—When you sit down to Christmas dinner, your turkey will be roasting in a sort of chaffing dish before your eyes. Radio waves will pass through all portions of the fowl, roasting it uniformly and swiftly. Thermic radio will also bake a potato, a loaf of bread or a pie in a matter of seconds; only a few more to turn out a roast. Themic radio dehydrators are in the offing, a method of canning foods, fruit and vegetables, leaving foods with more natural flavor and color and also done quickly and uniformly. In homes tomorrow, housewives may again be carrying lamps from room to room, but these new inventions will be in the form of glass bulbs containing phosphorus that will light up when bombarded by radio waves. They won't require wall plugs, or connecting cords to stumble over. Home heating by radio is in tomorrow's picture. These are the prophecies of the laboratories of Radio Corporation of America."

In conclusion, I hope that no manufacturer will make the mistake of subordinating performance and safety, convenience and cleanability, to beauty of design and finish, in order to synchronize with the new "Freedom Kitchen" or any other planned kitchen program which may be introduced in the postwar period.

We should not lose sight of the fact that eye-appeal, finish and synchronized design will not cook and bake, and it is on performance alone, plus safety and convenience that gas cookery must rely to hold its own against competition, concentrated and intensified, to a degree never before experienced.

Presented at the 38th Annual Convention Canadian Gas Association, Murray Bay, Quebec, June 19-22, 1945.

WARTIME ECONOMY
CONTINUED PRICE CONTROL
LIMITED RECONVERSION
WAGES AND TAXES
WARTIME RESTRICTIONS
PEACETIME ECONOMY

Gas

the

Companies can meet critical "in between" period ... with sound sales planning

INDUSTRY has taken its first step toward the production of consumer goods, with the limited reconversion announced since victory in Europe. But full return to peacetime economy will come gradually.

The war is still on . . .

A large part of our European army must go to the Pacific

Food will be scarcer, transportation tighter

Government restrictions will still hold to restrain inflation

This in-between period will bring many new problems. It can be a critical time for the Gas Industry. Though production of gas appliances is beginning, government control over prices will not be relaxed. Wages and taxes may increase. But the pre-war pattern of distribution can prevail.

Never will selling be more important than in the months ahead. The Gas Industry must develop new techniques in sales and distribution to meet the challenge of this period of reconversion. Pre-war selling procedures must be carefully examined in all their phases—including direct selling, advertising, sales promotion, and public relations, as well as relations with cooperating allied dealers for supplemental distribution of gas appliances.

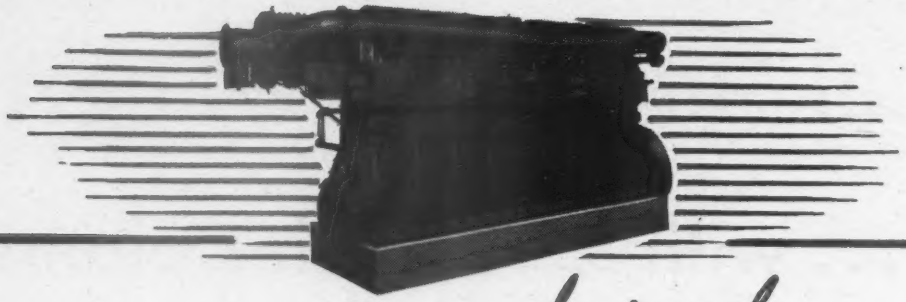
Servel has already taken the first action toward return to peacetime economy. With the cooperation of the Sales Training Division of the American Gas Association, it has developed the Servel Salesman Selection Program. Through this program, sales managers have been receiving practical instruction in how to select the best candidates for training and employment on their strengthened sales force.

Other important programs will follow this one. Their aim will be to help the Gas Industry meet the years ahead with the most efficient selling techniques possible.

SERVEL, Inc. EVANSVILLE 20, IND.

Announcing

ANOTHER REVOLUTIONARY ENGINE DEVELOPMENT



THE COOPER-BESSEMER *Supercharged* GAS ENGINE

FOR years engineers have sought to develop a practical means of supercharging engines operating on gaseous fuel. This has now been accomplished with complete, unqualified success by Cooper-Bessemer, permitting a 40 to 50 per cent increase in horsepower with no appreciable increase in engine weight or space.

The supercharging is made possible and wholly practical by a simple, patented method of timing the admission of gas, permitting complete scavenging under pressure, without fuel loss.

It is no exaggeration to say that this revolutionary development, opens the way for tremendous economies throughout the petroleum and chemical industries, particularly when combined with Cooper-Bessemer's gas or multi-fuel diesel.

These and other advantages are not necessarily limited to future installations. All Cooper-Bessemer turbocharged diesels now in service can be converted readily to gas fuel operation, if desired, or to turbocharged operation on any combination of gas and oil fuel.

The nearest Cooper-Bessemer office will gladly furnish any additional information you might require on the profitable application of this development to your present or future power needs.

THE Cooper-Bessemer CORPORATION
Mt. Vernon, Ohio • Grove City, Pa.

New York, Washington, Bradford, Pa., Parkersburg, W. Va., San Francisco, Cal., Seattle, Wash.
Houston, Dallas, Greggton, Pampa and Odessa, Texas, Tulsa, Shreveport, St. Louis, Los Angeles

BUILDERS OF DEPENDABLE ENGINES FOR 112 YEARS

Annual Convention, Canadian Gas Association

The panorama of the St. Lawrence as seen from the hotel, provided constant inspiration and delight to the delegates. Here nature's enchantment is at its best.

THE Annual Convention of the Canadian Gas Association was held June 19-22 at Manoir Richelieu Hotel, Murray Bay, Quebec. It was one of the most successful meetings of the Association held in recent years.

The Program Committee, under the Chairmanship of H. W. Durgy, designed a program with only a few papers, thus allowing plenty of time for discussion.

The Entertainment Committee, A. J. Straus, Chairman, arranged a program with variety to suit every one. There was golf, tennis, swimming and dancing. Horseback riding could also be arranged.

Then, there was the "Gas House Club," which functioned during the meeting under the management of Alex MacKenzie. The purpose of the club was to make available to all those attending the Convention a comfortable place where everyone could meet during moments of relaxation and become better acquainted. The club was located in the Casino and was closed during business sessions and meals.

The hotel and its surroundings are very attractive: It faces the St. Lawrence river, which at this point is over 15 miles wide. Immediately in back of the hotel starts a dense wooded section, through which some good roads have been constructed.

The first meeting got underway Wednesday, with Alan H. Harris, Jr., President, in the chair. All meetings were held in the Casino, near the hotel. After routine business was completed, came the President's welcoming address, next came short talks by prominent representatives attending the meeting. These included: J. French Robinson, President, American Gas Association; J. W. West, Jr., Assistant Managing Director, American Gas Association; R. M. Conner, Testing Laboratories, American Gas Association; Robert E. Allen, Director Information, American Petroleum Institute; H. Leigh Whitelaw, Managing Director, Association Gas Appliance and Equipment Mfrs.; Leon J. Willien, Acting Director, Institute of Gas Technology, Chicago, Ill.

At this point H. W. Durgy took over the meeting and introduced R. M. Connor, Director, A.G.A. Testing Laboratories, who presented a paper titled "Gas Industry Research." After describing the research activities of the Laboratories, he said: "It has become increasingly evident that henceforth we must rely on our competitive advantages and depend more for our future growth on the development of new ways of producing and utilizing gas.

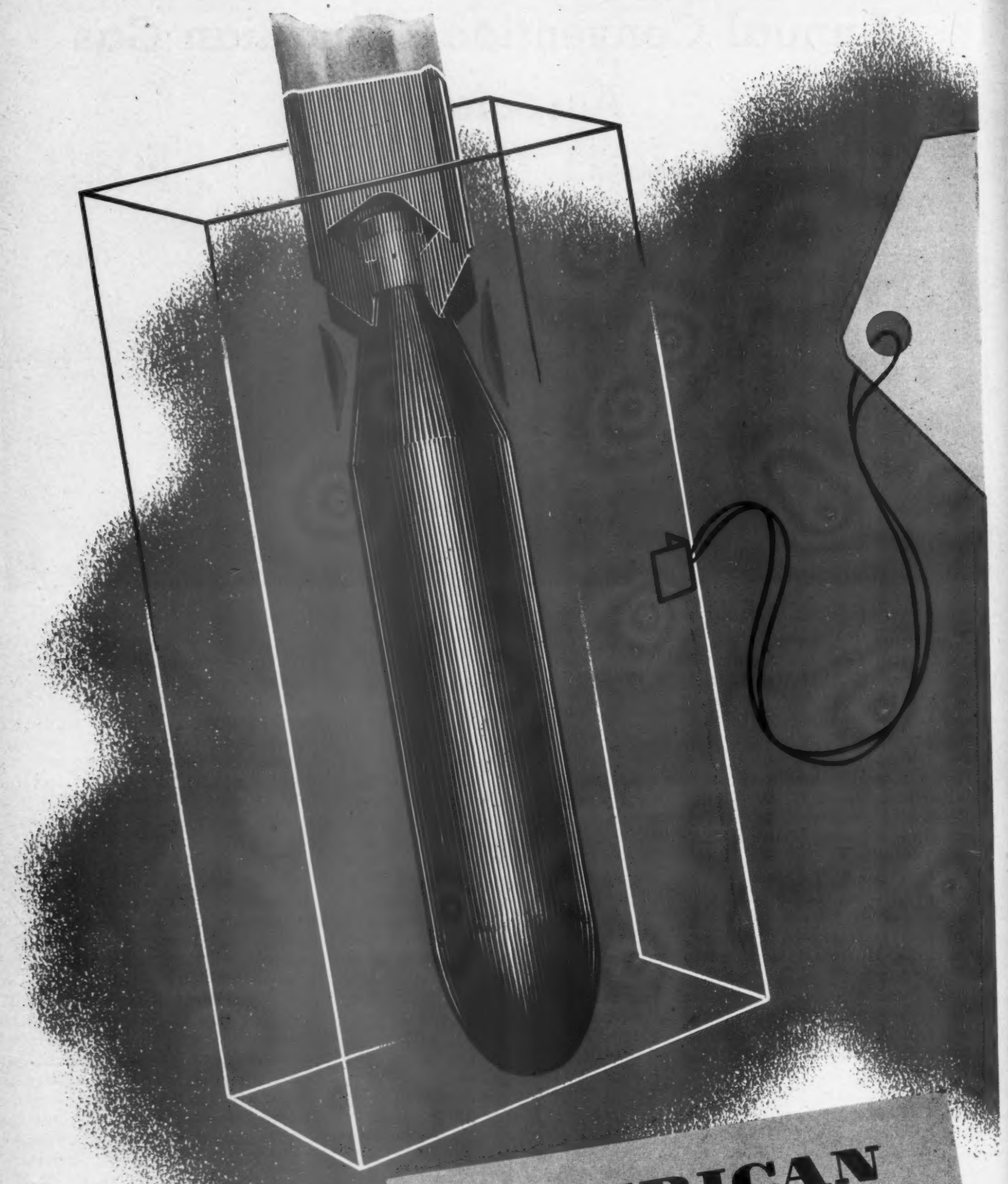
"There is no pot of gold at the end of our rainbow. Putting it another way, no single discovery is likely to entirely revolutionize our business. Rather it seems that our future progress will be gradual and, we hope, proceed along a broad front. This means specifically that gas cooking, air conditioning, heating and all other domestic, commercial and industrial uses must be improved to a greater extent and, if possible, simultaneously.

"Whatever we do we must never stop research. It is the life-blood of industry. Practically every worthwhile advancement along the lines I have indicated can be attributed directly or indirectly to such endeavors. Everyone realizes we are living in a highly mechanized age. Any business that fails to recognize this fact and governs its policies accordingly is doomed to eventual extinction. Fortunately, there is no fundamental reason why our business should fail; instead there are numerous reasons why it should succeed. Its future, however, is largely in our hands."

The next paper written by A. W. Givin, Vice-President in Charge of Sales, Gurney Foundry Co. Ltd., Toronto, on "Outstanding Developments in Gas Appliance Manufacture," is printed elsewhere in this issue of the *Journal*.

At the afternoon session, following the reading of Committee reports, considerable time was given to the discussion of papers presented by Mr. Conner and Mr. Givin.

(Continued on page 28)



AMERICAN METER COMPANY
INCORPORATED (ESTABLISHED 1836)
Albany • Baltimore • Birmingham • Boston • Chicago
Dallas • Erie • Houston • Kansas City • Los Angeles • New York • Philadelphia • Pittsburgh • San Francisco • Tulsa

IMMEDIATE DELIVERIES _to Hirohito

YES, WE'RE MAKING QUICK DELIVERIES...in substantial volume! Bomb and mine cases, water-proof cartridge storage cases, engine mountings, etc.

While production skills and plant capacity developed for large volume meter-making have been in great part diverted to war, the Gas and Petroleum Industries have cooperated wholeheartedly in postponing all but the most vital gas meter and other instrument purchases.

Yet every effort is being exerted to meet essential meter requirements. From seven strategically located plants we are able to deliver new meters and repairs by short haul in many areas, saving manpower... and incidentally conserving fuel and reducing transportation.

With cutbacks on war contracts, any resulting release of manpower and materials will automatically accelerate the gas meter deliveries on our present schedules.

ARMY E NAVY

• Philadelphia plants •

Then came the election of officers for the coming year. They were, President, J. D. von Maur, Toronto, Ont.; 1st Vice President, Wilfred C. Philpot, Toronto, Ont.; 2nd Vice President, Thos. Weir, Chatham, Ont.; Executive Secretary and Treasurer, G. W. Allen, Toronto, Ont.

The President's Reception was held from 6.15 to 7.15 P.M., and at 7.30 P.M. the Annual Dinner was held in the hotel dining room. The Guest speaker at the dinner was J. French Robinson, President, A.G.A. and President, East Ohio Gas Co., Cleveland, Ohio.

At the Thursday morning session, the first paper was "Outstanding Developments in Sales Promotion Plans," written by Geo. S. Jones, Jr., Vice-President in Charge of Sales, Servel, Inc., Evansville, Ind. It will be found elsewhere in this issue of the *Journal*.

"For Sale—Halos for Gas Ranges" was presented by H. Vinton Potter, Director, "New Freedom Gas Kitchen Program," American Gas Association, New York, N. Y.

He said in part: "Now what is our New Freedom Gas Kitchen Program? It is not a package nor a definite kitchen that we can call A or B, but rather it is a crusade to show gas appliances at work in their most attractive settings. It is also an opportunity for the gas company to serve its customers well—bewildered customers who want a modern kitchen, but know not where to turn for all-inclusive advice that will make their task easy. It is a crusade to bring New Freedom to the kitchen of the future, for we know full well there will be a dearth of household help and many women for the first time will be confronted with the problem of doing their own work. To them we can offer all the advantages which we know we have in our fuel and in addition we can offer them "New Freedom" from the dirt, grime and drudgery of the past—New Freedom from lack of adequate work and storage space—New Freedom from the dreariness of many old kitchens—and a chance to enjoy their homemaking in fittings that are attractive and will make for happy living in the home of tomorrow.

"We have been very careful in all of our plans to keep our kitchens out of the stratosphere for many manufacturers are finding now that their glowing descriptions of the brave new world of tomorrow are bringing down upon them the ire of customers who have been enchanted by their stories, but find their descriptions were out of this world. We have therefore kept our pictures practical and surveys indicate that the kitchens we are showing are in line with what women dream of as their ideal. They are not streamlined nor institutional in appearance, but homey and folksy."

J. D. von Maur
newly elected President of the Assn.

The Golf Tournament was held Thursday afternoon. The course is on top of the mountain in rear of the hotel. In some places the climbing is pretty steep. Some of the golfers had to stop to catch their breath in climbing from the valley to the peak to start on the next hole. For those who did not care to play the big course, there was an 18 hole putting course near the hotel with a par of 54, and many found some difficulty to play it in par. The best score in the tournament was a 72 made by J. French Robinson.

The hill-hiking golfers in their approach to the 18th tee got a lift up the incline in this welcome conveyance for weary plodders.

The final session was held Friday morning. After some announcements by Mr. Harris, retiring president, E. Carl Sorby, Vice-President, George D. Roper Corp., Rockford, Ill., addressed the meeting on "What This All Means in Postwar Sales."

Mr. Sorby said in part:

"I was glad to see that there was a real radiant note of enthusiasm and genuine hope for the gas industry expressed in all the addresses we have heard so far in the convention. You know, it just bothers me, friends, as a fellow who is part of what I think is the grandest industry on the face of the earth, to hear it spoken of otherwise. The gas industry has been good to you people and the gas industry has been good to me, and the gas industry in Canada and the United States has been good to untold millions of people, and it just makes me feel a sort of surge of new happiness that I am part of an institution that represents the strength and the quality and the character of the people that make it eclipse, in my opinion at least, all other types and associations of people, and when I hear people say those fine things about the gas industry I am kind of like the fire horse in the barn who hears the bells.

"And then I sit down and every so often somebody gets into my hair and begins to howl and get quite excited about what is going to happen to our markets, and they get all concerned about what might happen to our basic loads and all that sort of thing.

"While it is good to be concerned and alert about our problems, and while we should not let ourselves drop into complacency, still, I often say to myself, what would I do, how would I act, and what would my conversation be, if I were faced with the problem of merchandising a program such as electric cooking, if you please, such as electric water heating, if you please, and such as any other electrical gadget or device, that we spend just too much time thinking about. More thought and more effort about our business, and less worry about the other fellow and his business is in order. I don't think you have too much to worry about, I really don't, but boy, I think the other guy has got some real concern. Sure, you are going to see electric ranges go into some homes. You have made mistakes in your own life too. So why get mad at people because they make a little mistake like that. They will wake up with a shock some day and

(Continued on page 34)

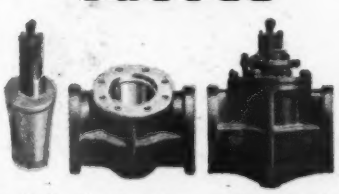
The laws of Physics never change

A FALLING apple brought forth Newton's Law of Gravity. Newton did not create a principle; he simply interpreted it. The principles of traveling pulleys, of fulcrums, levers and plug cocks are ABC's of physics. In valves, the most basic closure is a tapered plug. The Egyptians used it 5000 years ago. But because a plug would stick, Industry had to resort to gate closures, using a wedging principle. Then, when valves had to contend with high line pressures, extreme temperatures and corroding fluids, *trouble began.* So, Nordstrom applied Pascal's Law. He revolutionized the use of a plug valve by introducing pressure lubricant to seal the ports and make the plug easy to turn. He took the oldest of principles, applied modern engineering and thus solved the need for an all-purpose plug valve to give satisfactory service forever.

KEEP UPKEEP DOWN WITH NORDSTROMS

MECHANICAL PERFECTION REQUIRES PRESSURE LUBRICATION IN VALVES

NORDSTROM VALVES

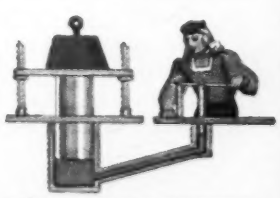


Basically, the Nordstrom consists of a plug and body. By turning a lubricant screw, multiplied pressure is transmitted through grooves in the plug and body to the bottom of the plug. Leakage is prevented regardless of line pressure.

TRAVELING PULLEY

LEVERAGE

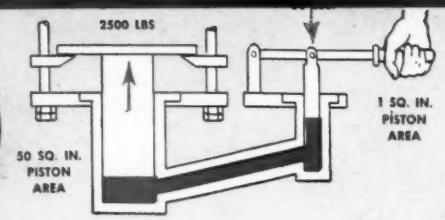
PLUG COCK CLOSURE

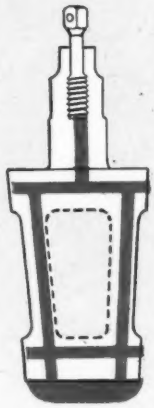


HYDRAULIC PRESSURE

(Pascal's Law)

PASCAL'S LAW WAS NEVER SO NECESSARY AS TODAY!





Nordstrom Lubricated Valves make use of the scientific principle known as Pascal's Law, as illustrated above. This law states that "a unit pressure applied to the liquid contained in a sealed vessel is transmitted to every part of the liquid with undiminished force," thus multiplying the force many times. Note how this law is applied to the plug.

For positive flow-line control

Lubrication within a valve definitely increases efficiency of operation and adds ultimate life. Pressure lubrication makes possible the use of a plug valve for highest pressures, and in large as well as small sizes. The Nordstrom "Sealdport" system not only provides lubrication to make the plug easy to turn but establishes a positive, leak-resistant seal around the ports. Unless a valve is lubricated it cannot give the fullest life. Lubrication is both vital and essential. It is what has made Nordstrom Valves *indispensable* for countless services in the petroleum, gas and chemical industries.

Nordstrom

LUBRICATED VALVES

Sealdport Lubrication

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Planning For Post-War Sales

By
George S. Jones, Jr.
Vice-President in Charge of Sales,
Servel, Inc., Evansville, Indiana

George S. Jones, Jr.

THERE ARE two phases of this subject, "Planning for Postwar Sales", that I would like to discuss to-day. First, that phase that really sets the stage for all postwar sales — the part that distribution plays in an adult machine economy. Second, that phase that has to do with planning in our own industry —the utilization of gas as a fuel for the comfort, convenience, and profit of all our people.

In the beginning, let me say this: While I have visited in Canada often, and have, with my company, done business here over a number of years (as a matter of fact the company I refer to is a Canadian company), I would make no pretense of being an expert on Dominion affairs. I do know that fundamentally, the Dominion of Canada and the United States are composed of the same sort of people who think alike to a large extent, whose ideals and objectives, and whose problems, are quite similar. I am talking to-day then largely in terms of the picture I have in the States — content to leave to you the job of applying my statements where they fit and are interesting and forgetting them otherwise.

Distribution—A Prime Essential

As to the first phase, many years ago when I studied Economics, I was told that there were three utilities: the utility of form, the utility of time, and the utility of place, and that all three were essential. It has been a disturbing thing to me that so much attention has been paid to the first utility, which is but another name for manufacturing, and so little to the last two, both of which can be properly identified as Distribution, since the utility of time means storage or warehousing, or holding for demand; and the utility of place means transportation, means carrying from the source of origin or manufacture to the point of consumption. For nearly thirty years I have tried to point this out, saying that two of the three essentials to our economy are in the area of distribution, of marketing, of selling—an area that is noted chiefly for the stories of the traveling salesman and the farmer's daughter.

Let's examine a few fallacies that have grown up in our economy. One of the earliest fallacies, and one of the most vicious is the mouse trap story, a popularly accepted version of the services, or rather the lack of services, to be rendered by the marketing profession's part of business which has been, and can be, properly described as the entrepreneurs of industry. That poet, Gray, I think, was more nearly correct when he referred to "full many a flower that was born to blush unseen and to waste its sweetness on the desert air". The importance of usefulness cannot be overstressed. Elias Howe invented the sewing machine, and then left it to rust and die with him in his attic. Singer served by distributing, by telling the people of the world about this revolutionary device. Surely, he profited tremendously; but he profited because he served, and in this instance, it seems to me that the profit accrued to the right person. It was Singer who worked at the job of using the invention of Elias Howe and making it available to all the people.

International Rotary has long pointed this out in its slogan, and I, for one, am willing to accept the literal, material concept of that slogan which says that "he profits most who serveth best". There have been many good mouse traps that never got out of the woods.

As President of the National Federation of Sales Executives, I'm trying awfully hard to get folks interested in the philosophy of distribution as distinct from the technique, convinced that people will use the facilities and the technique only if they have the understanding that must precede desire. Here's what I mean by that—for over two thousand years we have added little of anything to the story of philosophy, to the art of living as written by Plato and Socrates. Just a century and a half ago, the machine age was born. We need to rewrite philosophy as we stand in the bright noonday sun of the industrial revolution, or that period in which the requirements of man, the comforts and conveniences, are produced to a great degree by machines rather than manual labor. We have made very little progress in rewriting this story of philosophy, and in understanding the effect on our civilization of the machine age.

Mass Production

For instance, Eli Whitney, who is better known for his cotton gin, was really the father of mass production, as he demonstrated to President Jefferson the soundness of standard parts, of repetitive production, when he disassembled some 10 or 12 muskets, mixed their parts all up and reassembled them, quickly and satisfactorily. This was over a hundred years ago, but the full growth and impact of mass production was not felt until well after the turn of the century. It was mass production with its automatic machines and its assembly lines that gave us the automobile, the radio, and the refrigerator in the quantities that we have enjoyed them, and at the low prices we have paid for them.

But like a child with a new toy, we did not dig beneath the surface and find some of the other effects. Here we had a beautiful machine, and we were joyful, and interested only in the continued activity of that machine without seeing the over-all results it produced. We forgot that production is needed only if use for that production can be found, and we took too little pains to find use

for that production. Here, we had mass production, but we had yet to develop mass distribution.

That brings me to another one of the fallacies — that fallacy which states that distribution is non-productive, and therefore non-essential. Webster might challenge the statement that distribution is productive, although I make it in the sense that it produces results. But no one can deny it is essential, because without it production, in the first place was not justified, and cannot long continue. How simple that is, and how long ignored by top management, by educators, by politicians, by economists.

Employment

Today every representative, elected or self-appointed, of the people has great dreams and great schemes about perfecting a postwar world. These schemes include guaranteeing jobs, although Salazar of Portugal said over twenty years ago that no government could provide a future for its people except as those people provided it for themselves. All of our ills would be cured by legislation, by adoption of rules on wages and hours, by maudlin statements on the brotherhood of man, by paternalistic schemes that any self-respecting father would never include in his plan to build his sons and daughters into strong men and strong women.

All of these plans we hear of; all of these schemes; and not one word as to the possibility that if the sales managers of the world could dignify their profession; could recruit the type and quantity of intelligent and efficient personnel to find the markets, that we could provide employment without adopting any of the "isms" that are fouling the air of this earth to-day; "isms" that all masquerade under the title of "employment." The hardest lessons to learn are the obvious ones. Must we still deceive ourselves that people work during wartime only because they are told to, because it is patriotic, or for some of the other important, but not inclusive reasons? Must we never give thought to the far more practical reason that there is a need, a demand, a use, for production, a backlog of orders on the file of industry that will take months to fill. Is it impossible to convince people that orders, brought in by sales people, guaranteed by opportunities to work and earn, can keep industry's wheel turning, and keep making products and continue the employment of all people who want to work? Is it impossible to concede that not only will this provide employment, but that in turn will destroy all the "isms" that are threatening to destroy us because we thus destroy the causes of "isms" which never have fallen on full stomachs? This, then, is the challenge I would like to issue to everybody who has to do with postwar planning. This importance of distribution.

A while ago I said there were three utilities. Let me add a fourth —the utility of creating a desire which is but another word for selling. Four utilities, all of them essential in our present economy and three out of the four in the area of distribution. Can we any longer deny the absolute essentiality of a more intelligent, a more aggressive, a more dignified role to the members, to the men and women who make up the personnel of our distribution?

Post-War Competition

Now let's talk a little bit more specifically about the gas industry—about that postwar period in which we face the competition of the fuels. At this meeting, and at others, are the great technicians of our industry — men that have been, and will be able to tell you how to sell more gas, to render more service, how to hire, to train, and to supervise; how to advertise and publicize the jobs that lie ahead.

Can we take just a few moments to discuss the why for all this? Since time began, man has labored to transform the soil, the minerals of the earth, the natural resources of the world into useful things. It has been a worthwhile struggle. It has been a definite promise to man, this earning a living by the sweat of your brow. Above all, it has been a fact and not a theory.

Man is distinguished from other animals by both spiritual and material concepts. If you ignore one, you destroy the other, but the importance of material things is no better stated than by Pearl Buck who recently said in the May issue of American Mercury, "This may be said of all men alike—they prefer to have food rather than to starve, to have shelter rather than to be homeless, to be healthy rather than diseased, to live long rather than short lives, to be happy rather than sorrowful. Given the choice between a comfortable life on earth and a possible heaven afterwards, people, East and West, will choose a good life on earth."

We in the gas business can contribute mightily to a good life on earth by finding new uses for gas, and telling the people about it. Gas for the major functions of a home, for cooking and preserving food, for the health that follows the abundant use of hot water, for the comfort and the health of heated houses. May I point out that the first challenge to the electric industry—the industry that has challenged and taken over the lighting load that was gas—the industry that has added a multiplicity of gadgets and conveniences to the home, and is now vigorously challenging the cooking load, may I point out that the first challenge from the gas industry was, and is, the gas refrigerator. With considerable pride I point to the excellent selling job done by the entire gas industry in demonstrating the many advantages of making cold from heat in the domestic refrigerator.

To-day we stand ready to issue another challenge—a new use for gas —that of summer comfort-cooling. Through the use of a gas-fired furnace that not only cools the home in summer, but almost magically also anticipates a requirement of man by heating in winter, by humidifying, by dehumidifying, and cleaning the air we use to make a home out of a house. Talk about the romance of fuel, here is a romance second to none the electrical people could talk about, but we must sell it!

To-day sales managers are convinced that only by improving the quality and the quantity of their sales effort can the full story of gas service be told. The American Gas Association, in recognition of the need for this stepped-up activity, is presenting the New Freedom Gas Kitchen where gas is used to do the work that is essential—cooking, refrigeration, water heating, house heating and cooling. We gladly let electricity do the incidental things.

The American Gas Association likewise is urging the adoption by all utilities of an intensive program in recruiting and training sales forces —a job that must be done in the next few months of easy selling against the inevitable day when we will need the hardest hitting sales force we have ever had.

In the opportunity to participate and contribute to this, Servel is proud and grateful.

Post-War Salesmen

May I say a few things about this Selection program which is the present chief activity of the Sales Department of my company. In the considerable service rendered to the war objectives of our country in the Nutrition program, we kept in

pretty close and constant touch with utility executives throughout the country, which is still being carried on—and conceivably, may be continued in some form long after the war is entirely over.

When at long last we realized that the victorious result of this war was inevitable, and that it only remained to establish the date of its completion, we began to look forward to the problems that we all face in the postwar world. We were familiar with the fact that many utility companies had reduced their sales forces to a minimum as their members entered the armed services and other essential war work. Many of the sales managers, however, were still on the job, and we discussed with them the things that we would have to do to be prepared when the war was over to continue to sell in increasing quantities the services of the gas utility.

Just prior to the war, we had begun a rather successful course in sales training which we called our Sales Seminar. As we discussed this Seminar and the need for more aggressive selling postwar, it became obvious that we would face the job of recruiting and training salesmen to a degree that we had never encountered before.

Mr. Canniff, our Advertising and Sales Promotion Manager, sought the services of some experienced men in this question of selection, and finally secured the continuing services of Dr. McMurry. Just as we were working with Dr. McMurry in finalizing some of our plans, Mr. Canniff was made a member of the Committee, chaired by Bob Williams of the Binghamton Gas Company, which was to plan for the hiring, the training, of salesmen throughout the gas industry. As they discussed the first phase, Mr. Canniff was able to make his report on the progress of our company. This report apparently was quite impressive. In any event, the chairman, Mr. Williams, asked Mr. Canniff if he would supply this particular phase of the American Gas Association's program. This, of course, he agreed to, and today we are holding meetings with those men appointed by the utility companies who are going to have the responsibility of recruiting and training men as they get back into an aggressive postwar sales activity.

Meetings have been held continuously since early this year, and by the time all of these meetings are finished, those that are presently scheduled, by this fall, we will have had in attendance on a two or three-day clinic some two or three thousand men in this country, that is, in the United States, who we feel will be much better qualified than ever before to select the best type of sales people.

I am not going to enter into the controversial problems that we would immediately face as we discuss these methods. Aptitude testing unfortunately has fallen into some disrepute because it has been used by too many people who were not properly equipped, and who, therefore, attempted to apply Aptitude testing to too broad a field.

Selection Program

The Selection program that our company is using, and that has been so widely approved by the gas utility, is, in effect, a relatively simple and obviously desirable one of certifying qualifications that are particularly suited to the sale of gas appliances.

In the process of developing this test, or screening program, Dr. McMurry studied the records of over a thousand retail gas appliances salesmen, personally interviewing several hundred of them. These men were good successful men; there were also some of them mediocre, or medium, men, and many of them could only be called unsuccessful salesmen. It was Dr. McMurry's desire to get a list of characteristics, or qualifications, that would enable him to say that if a prospective applicant possessed a large percentage of certain characteristics, he would have a better than an average chance to succeed since those characteristics were common to the successful salesman.

I would like to be emphatic, not only in considering the Servel plan, but in considering any postwar selection program, pointing out that this selection, or screening, test which we expect to be quite successful in this particular industry, is not necessarily of any use to any other industry. These patterned interviews, these certified screening tests, must all be developed for the particular industry in which they are to be used.

It is with a great deal of confidence then, and much hope, that we look forward to postwar in the gas industry. Today, we can talk specifically about the production of gas refrigerators in the last part of this year. We can talk specifically about the production rates and dates on water heaters, and on ranges, on house heating, and on air conditioning.

The opportunities to serve the public postwar will be infinitely greater than ever before. It's up to the utility companies and their executives as to the degree with which they accept this challenge and discharge this responsibility of greater service, and as important as the quality, the characteristics, and the quantity of gas itself, must continue to be, it is my firm conviction that the services rendered by the gas utilities of the country to its people, will be in direct proportion to the ability of the management to get the concept that in this day, and in this age, distribution and selling are the things that must receive preferred attention. It will be great to be a salesman in the postwar world!

Presented at the 38th Annual Convention, Canadian Gas Association, Murray Bay, Quebec, June 19-22, 1945.

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Write for illustrated folder

SYNTRON CO.

920 Lexington Homer City, Pa.

(Continued from page 28)

then you can sell them a nice modern gas range.

"All these things we have talked about, such as the range of tomorrow, such as those highly desirable and much wanted things like single point ignition, low temperature ovens, speed ovens, easier to clean broiler compartments, easier to clean ovens, new top burners—all of those things stimulate me, because I know if I can't have them today, I can have them maybe tomorrow, and if not tomorrow, maybe the following tomorrow. And so I don't see any one of us in this business getting flat feet standing on the ladder of success. I just don't see it.

"And then of course it bothers me when I see a continuance of something that, believe it or not some warnings have been sounded on, and that is, all of the razzle-dazzle and the wing-dinging around what my lady is going to have when this blows over. Well, maybe we should review just a little bit of this thing, to give us a background for some of the things that are really coming.

"I would like to sum it up for you in this way. Engineering developments in pre-war days were decidedly on the agenda of the appliance manufacturer, and orders from front office were to develop better efficiency and functional improvements in the appliances. The ideas were all tested and some went beyond the test tube stage and received actual application. Others fell by the wayside. In our own company foremen and shopmen were encouraged to attend technical classes. Management and labor consorted, and salesmen were hired because they could get business.

"That might represent prewar, but along came this awful thing, war, and industry converted from peace time production and there was no civilian production to sell. Some of our big operators then began what we call today institutional advertising. Institutional advertising can lead out into several directions, and one of the favorite roads was the post-war house with a lot of particular emphasis on the kitchen, and as a result in the mass periodicals, her and back home, they pictured playmore kitchens, full of streamlining and electric washers. You have only to push a button or sit on a switch or walk through an electric beam to make anything work. You make a pass at something and up jumps a red hot plate or a frosty cold one right into the middle of our plastic hut. If you take an incautious step you are liable to get a slap by a steak from the infra-red cooker, where it is being cooked to a turn in one-thirtieth of a second.

George W. Allen
Executive Sec'y Canadian Gas Assn.

"Now, most of this advertising is not being done by the maker of the actual equipment used in the kitchen. It is being done by the man who makes the stuff that is supplied to the supplier who supplies the stuff to the man that fabricates the stuff into that sort of stuff. Do you think that is good? I don't."

The introduction of the newly elected president, J. D. von Maur, by Alan H. Harris, Jr., retiring president, completed the program.

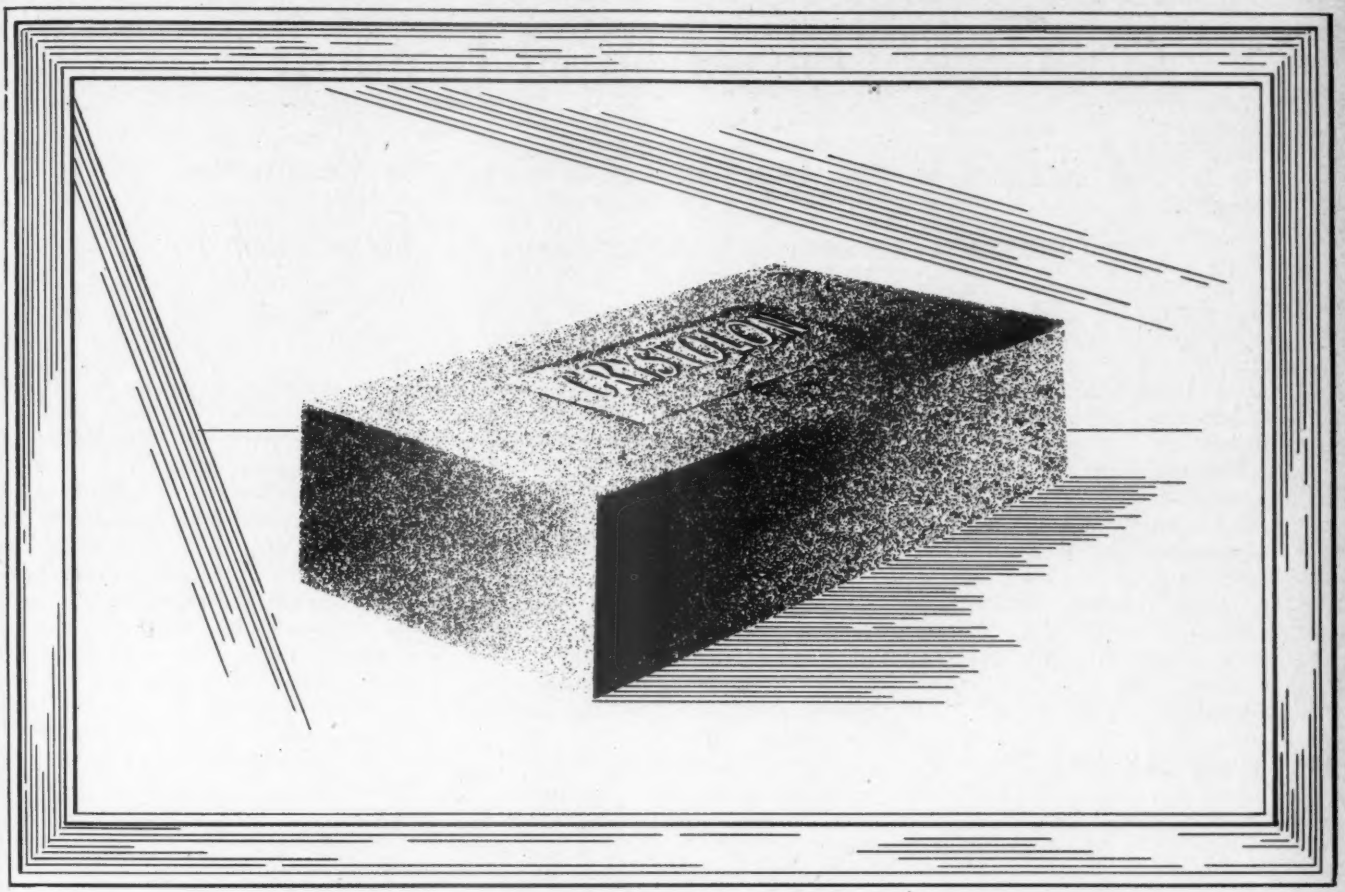
All arrangements for the convention and boat trip from Montreal and return were in charge of G. W. Allen, Executive Secretary of C.G.A. There were 226 delegates, including the wives of many, boarded the boat at Montreal Monday evening, June 18th, arriving at Murray Bay 1 P.M. Tuesday. There were a few delegates that arrived later, so that the attendance at the meeting was approximately 250.

Ruud Manufacturing Co. Announces Promotions

R. H. Lewis, former vice-president and sales manager of Ruud Manufacturing Co., Pittsburgh, Pa., has been elected president.

M. M. Scott has been promoted to vice-president in charge of sales and advertising.

F. A. McFerran, manager of the Cincinnati branch has become general sales manager.



Portrait of a Successful Product: CRYSTOLON BRICK

The success of CRYSTOLON Brick has been firmly established over a period of many years during which these highly refractory brick have given long, trouble-free service in the generators of water gas sets. Densely made of silicon carbide with a minimum of refractory bond, CRYSTOLON Brick have great resistance to abrasion, to spalling, and to the chemical and physical action of molten ash. Clinkers may adhere to a limited degree but they are easily and quickly removed leaving the surface of the brick clean and unaffected for further service. CRYSTOLON linings often give up to 20,000 hours without need for repairs and usually pay for themselves the first year by savings in cleaning costs alone.

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Norton Longer Lasting Refractories

Chemical Utilization of Natural Gas

A Report to the Technical and Research Committee Natural Gas Division, American Gas Association

By
Benjamin Miller
Institute of Gas Technology

ALL THINGS, the ancient philosophers believed, could be expressed in terms of four elements: fire and water, earth and air. Today we still find it convenient to use two fundamental concepts, matter and energy, although Einstein has taught us they are but differing aspects of a single entity. Natural gas is important primarily as a source of energy, a convenient fuel, and only in a relatively minor way as matter to be used or transformed. It is with this minor use of natural gas that the present report is concerned, with what one can do with natural gas besides burn it.

To say that the annual production of natural gas is of the order of four trillion cu. ft. may give some idea of the amount of matter with which we are concerned. It may be helpful to point out that this quantity of gas weighs about 100,000,000 tons and thus on a weight basis the natural gas industry has an annual production about equal to that of the steel industry.

Chemically speaking, natural gas is a mixture of compounds, predominantly hydrocarbons, but with minor components including nitrogen, carbon dioxide, hydrogen sulfide and traces of other sulfur compounds, and occasionally helium. So far as I know natural gas is never prized for its nitrogen content and natural-gas nitrogen would be used chemically only where it happened to be mixed with atmospheric nitrogen, the mixed nitrogen being obtained from products of natural gas combustion. Some natural gas is very rich in carbon dioxide and such natural gas has been processed for the production of solid carbon dioxide, so-called dry ice. Hydrogen sulfide is an objectionable component whose removal has been practiced for some time. Very recently hydrogen sulfide removed from natural gas has been treated for the production of elemental sulfur. While the amount of sulfur produced in this way is quite small compared to the total sulfur production, the operation is of great interest and may be practiced on a larger scale in the future. . . . .

Natural Gas Components

The hydrocarbons which are the principal components of natural gas are composed of carbon and hydrogen, the carbon making up 75% by weight of methane, the simplest, and greater proportions of the other hydrocarbons. By far the most important of the chemical uses of natural gas from the standpoint of volume is the manufacture of carbon black and this is also the oldest use of natural gas as a source of matter rather than energy. Hundreds of thousands of tons of carbon black are produced each year from hundreds of billions of cu. ft. of natural gas. The development of the carbon black industry indicates certain trends and illustrates certain economic factors which will be important to a greater or lesser extent in the development of any other industry based on natural gas as a raw material.

Carbon Black

Several processes are in use for the manufacture of carbon black, but until recently the channel process accounted for all but a small fraction of the total production. One distinguishing feature of the channel process is the small yield. Less than 5% of the carbon in the gas is recovered as carbon black. This low yield has several effects. It makes it necessary to use large volumes of gas to produce channel-process carbon black at a commercial rate.

Since the price at which the product sells is relatively low, that is, a few cents per lb. for the great bulk of it, only lowpriced gas could be used.

Other processes were developed which produced more pounds of carbon black per MCF but the carbon black produced by these other processes was less desirable for the major carbon black market, that is, for use in rubber tires. The shift from natural rubber to synthetic rubber changed the picture. Carbon black made by other processes, notably by the furnace process, was found to be relatively more suitable for use in synthetic rubber tires than it had been for use in natural rubber tires. The spectacular growth of the synthetic rubber industry was accompanied by a less publicized but tremendous increase in the production capacity for furnace-type carbon black.

Furnace-type carbon black can be made in yields of 25% and higher rather than 5% or less. Thus, insofar as furnace black can serve purposes formerly exclusively served by channel black, the carbon black industry takes on a new aspect. If five times as much product can be made per unit of gas consumed, the value of natural gas for carbon black production may increase considerably before it hits the ceiling imposed by the market value of the carbon black produced. Furthermore, the high material yield makes it very difficult to consider the production of furnace-type carbon black an economic waste. It may even be that the production of furnace-type carbon black will some day be looked upon as a superior use of natural gas. . . . . .

Both furnace black and channel black are made by partial combustion of natural gas. Other methods for producing carbon black involve thermal decomposition of natural gas, carried on in such a way that no combustion products are mingled with the carbon black, though heat for the decomposition is generated by combustion. There are various modifications of this general process, and the products of the various modifica-

tions have properties differing from channel black and from furnace black, and among themselves. Uses for these thermal decomposition carbon blacks have also increased. The thermal decomposition process also produces hydrogen, and in some cases the hydrogen is considered the main product and the carbon black the by-product; there will be more about hydrogen from natural gas later.

Price Differentials

While the differences among the various carbon blacks are of great importance in connection with their several uses for the present report it suffices to point out that the various types are not completely interchangeable and therefore price differentials exist and can be maintained. However, research by the various consuming industries is stimulated by such price differentials because the consumer has an incentive to modify his process so as to be able to use the cheaper carbon blacks, which are those made in higher yields. Also, the producers of the lower-priced carbon black are stimulated by price differentials to do research looking toward more nearly perfect control of the properties of their products so as to make them suitable for more varied uses. It seems inevitable that as a result of these developments the average yield of carbon black from natural gas will increase. This will tend to make the cost of the gas itself a less important factor. .....

It is thus possible to discern two opposing tendencies. As yield is increased, the amount of gas required for commercial operation decreases so that more locations become possible sites for carbon black plants. On the other hand, as the yield increases there should be a tendency to move the gas to the consuming market and produce carbon black close to the market. There is also to be considered the matter of by-products or concurrent products. It was mentioned above that hydrogen is produced along with carbon black by some processes and the hydrogen may be used in ways to be discussed below. Now the amount of gas necessary for such a commercial operation may also be relatively small, of the order of 5,000,000 cu. ft. per day. However, utilization of the hydrogen may restrict the location of the plant since hydrogen is relatively costly to transport, but there may be locations where both carbon black and hydrogen can be utilized. .....

Market For Tail Gas

Two further possibilities deserve consideration. Where furnace-type black is produced, the tail gas has so low a heating value that it cannot be economically placed into pipe lines for transportation to distant fuel markets, and generally there is very little use for it as a source of energy at the point of production. Near a consuming center, however, a large volume of low heating value gas may be valuable, so that it may become economically feasible to utilize the tail gas from a partial combustion carbon black process as a source of heat or of mechanical energy. Then consideration of economic waste could be entirely eliminated. The possibility therefore exists that gas may be transported from a location at which its use for carbon black manufacture would be uneconomical to another location and there converted into carbon black, and the tail gas utilized so as to make the entire process efficient in material use as well as economic.

Other Carbon Black Sources

Natural gas is not the only possible source of hydrocarbons from which carbon black can be made. It is known that carbon black is made from acetylene in Canada, the acetylene being derived from calcium carbide made in electric furnaces from coke and limestone. In England and Germany, according to published reports, carbon black is made from naphthalene or other hydrocarbons derived from coal by carbonization. While it does not seem that electric furnace acetylene or coal carbonization by-products are likely sources for carbon black in this country, there is the possibility that carbon black will be made from hydrocarbons derived from petroleum. There have been published reports that carbon black has been made, on an experimental scale at least, from liquid hydrocarbons derived from petroleum. The cost of liquid hydrocarbons available for carbon black manufacture has probably been too high to make such a process economical if consideration be given only to raw material. .....

The Future Demand

It has already been mentioned that the shift from natural rubber to synthetic rubber has had considerable influence on the carbon black industry and has caused increased demands for carbon blacks other than channel black. This is not to say that channel black is not used with synthetic rubber; on the contrary, the demand for channel black has also increased, but not to so great an extent. When natural rubber is once more available in quantity, will channel black regain its predominant position or will the improved position of other types of carbon black be maintained? Any answer to this question must be based on some assumption as to the future relation between natural and synthetic rubber production. However, it seems fairly certain that manufacturers of other types of carbon black will succeed, at least to some extent, in modifying their products to make them useable with natural rubber to a greater extent than was the case in the past, and the rubber manufacturers will undoubtedly develop means of compounding natural rubber so as to take advantage of the desirable attributes of all types of carbon black. .....

Taking all of the foregoing into consideration, it would appear that greater production of carbon black is to be expected in the future, but that on the average, the number of pounds of carbon black obtained per MCF of natural gas will also increase, and other raw materials may be used, so that the total quantity of natural gas used for carbon black production may even decrease. Furthermore, the newer processes for carbon black production may make possible the use of gas which could not formerly have been considered for this purpose because the amount available was insufficient for commercial operation. Thus it is reasonable to expect that carbon black production will take less natural gas which might otherwise go into pipelines in the future than it has in the recent past. .....

Hydrogen Production

The production of hydrogen by thermal decomposition of natural gas with concurrent production of carbon black may be considered from the standpoint of the carbon black being the principal product or the hydrogen being the principal product. At least one such operation has been going on for many years, the hydrogen being considered the principal product and being used in the manufacture of synthetic ammonia. A plant using about 5,000,000 cu. ft. of gas per day and producing 100 tons of ammonia per day is definitely commercial. For such a plant the cost of the natural gas is secondary, since the value of the ammonia produced is so great compared to the value of the natural gas consumed. Low-cost natural gas is undoubtedly desirable but not

necessary for such an operation, and if other reasons make it advisable, such a plant could be located at a considerable distance from the producing wells.

When the war emergency required a tremendous expansion of the production of ammonia from which to produce nitric acid for explosives, natural gas came to mind immediately as a source of the necessary hydrogen. The war emergency plants very largely used another process for hydrogen production, one in which natural gas is reacted with steam to form a mixture of hydrogen and carbon monoxide, the carbon monoxide reacted with additional steam to form carbon dioxide and more hydrogen, and the hydrogen and carbon dioxide then being separated. It has been stated that about one half of the emergency synthetic ammonia is produced from hydrogen made in this way. Here again the cost of natural gas is not the most important factor, and plants may be located at considerable distances from the producing wells. It is extremely doubtful that synthetic ammonia production will continue indefinitely at the peak wartime rate. When the production rate drops the consumption of natural gas for this purpose will drop. .....

Aviation Gasoline

For the manufacture of aviation gasoline another process has been developed which uses isobutane extracted from natural gas. This process is called alkylation. Isobutane is caused to react with butylene to form in one step branched-chain eight-carbon-atom paraffins. The demand for isobutane for use in alkylation became so great that the supply available had to be augmented by converting normal butane to isobutane, the conversion process being called isomerization. The manufacture of aviation gasoline therefore uses hydrogen derived from natural gas, isobutane extracted from natural gas and isobutane produced by isomerization of normal butane extracted from natural gas.

In addition to alkylation with four-carbon-atom olefins, it is possible to alkylate isobutane with olefins having fewer or more carbon atoms. This is not generally practiced because the most effective use of isobutane can be made when butylene is alkylated. However, where there is locally an excess of isobutane and a supply of olefins other than butylene, it may be more economical to alkylate the other olefins than to move the isobutane to a location in which there is excess butylene.

The outstanding example from the natural gas standpoint is the production of isomers of hexane. This involves the reaction of ethylene with isobutane. Two general processes are in use, one of which produces principally 2-2, dimethyl butane, also called neohexane, while the other produces principally 2-3, dimethyl butane. The production of neohexane was first established on a commercial basis, but the production of 2-3, dimethyl butane is more desirable. For this process ethylene is prepared by cracking propane extracted from natural gas. Actually a mixture of ethane and propane can be used as raw material.

It is techncially quite feasible to dehydrogenate butane to form butylene and therefore aviation gasoline could be made from normal butane by dehydrogenating one part of it to form butylene and causing the butylene to react with isobutane formed by isomerizing another portion of normal butane. However, this process seems not to be practiced, at least not on a large scale. The reason is that butylene is available in large quantities as one product of the catalytic cracking of petroleum fractions.

Another process, also called alkylation, is the addition of an olefin hydrocarbon to an aromatic hydrocarbon. For example, propylene may be added to benzene to form isopropyl benzene, or cumene, which is an important component of aviation gasoline. Part of the propylene used in this operation is made by cracking butane extracted from natural gas.

Another method of converting natural gas hydrocarbons such as butane to aviation gasoline involves cracking to form olefins, then polymerizing the olefins. This method was one of the first used to convert normally gaseous hydrocarbons to liquids, but it is of less importance than others mentioned. Hydrogenation of the polymer improves the quality of the product.

The future use of natural gas and hydrocarbons extracted from natural gas for the manufacture of aviation gasoline on a large scale seems quite doubtful. Liberal estimates place the peace-time market for aviation gasoline at no more than 10% of the war-time peak production. A large part of the aviation gasoline is produced by catalytic cracking units and it may be that in the future most aviation gasoline will be so produced. There may be some production from butylene and isobutylene by addition and hydrogenation as described previously. Also some production of aviation gasoline by alkylation from butylene and isobutane may continue. However, oil refineries have always produced some isobutylene, butylene and isobutane since cracking was introduced and the production of such four-carbon hydrocarbons is increased in the catalytic cracking process over what it was in the older thermal cracking process.....

Synthetic Rubber

Synthetic rubber, mentioned above in connection with carbon black is also important to the natural gas industry as a consumer of hydrocarbons extracted from natural gas. The greater part of the synthetic rubber is made by combination of butadiene and styrene. Butadiene is being made by dehydrogenation of butane extracted from natural gas. Styrene is being made from ethyl benzene produced by the alkylation of benzene with ethylene, the ethylene being produced by cracking of propane extracted from natural gas. However, natural gas plays but a minor part in the synthetic rubber program. Most of the butadiene has so far been made from ethyl alcohol, and ethyl alcohol has also been used in making styrene from benzene. But ethyl alcohol, while produced by fermentation for the most part, is also made from ethylene manufactured from propane. Of the butadiene which is not made from ethyl alcohol, the greater part is produced from butylene which as previously mentioned is made by cracking oil, primarily by catalytic cracking. One of the largest butadiene-producing plants was originally planned to use butane as raw material. However, it was found that sufficient butylene from oil cracking was available in the neighborhood for the planned butadiene output. Since dehydrogenation of butane to butadiene requires the removal of twice as much hydrogen as dehydrogenation of butylene, the latter is the preferred raw material. If it were not that butylene is in even greater demand for aviation gasoline there would probably be no production of butadiene from butane at all. Therefore, when the demand for aviation gasoline decreases and butylene becomes relatively plentiful, it is reasonable to suppose that butadiene manufacture from butane will cease. The production of styrene using ethylene produced by cracking propane may continue, since the extraction of ethylene from refinery gases is generally more difficult than the extraction of butylene.....

There have been considered so far non-fuel uses of natural gas for production of carbon black, synthetic ammonia, aviation gasoline and synthetic rubber. It has been pointed out that carbon black production will probably increase but that the amount of natural gas required for carbon black production will probably decrease because greater efficiency in production is to be expected and the tendency is toward the use of types of carbon black which can be made in higher yield. Synthetic ammonia production capacity increased enormously for war purposes, but such production will almost certainly be cut very drastically during peace time so that the amount of natural gas used as a raw material in synthetic ammonia production may be expected to show a marked decrease. Similarly, the production of aviation gasoline has increased until present production capacity is enormously greater than would have been considered possible a few years ago. Here again, peace time demand, will be only a small fraction of the war time demand, and since it is the marginal aviation gasoline, which was made from natural gas, generally speaking, the use of natural gas as a raw material for aviation gasoline manufacture may be expected to decrease markedly if not to disappear entirely. The situation with respect to synthetic rubber is not so clear. Synthetic rubber may continue to be produced in large quantities even after natural rubber becomes freely available, and the use of ethyl alcohol as raw material for synthetic rubber production will decline. Nevertheless, the production of butylene by cracking oil will probably be more than sufficient to take care of any demand for butadiene for synthetic rubber. It seems safe to predict, therefore, that even if synthetic rubber production should maintain its present level or slightly increase, the amount of natural gas hydrocarbon used as a raw material for synthetic rubber production will probably decrease.

Chemical Products

The non-fuel uses of natural gas so far discussed have reached their peak of natural gas consumption or will shortly do so and in the immediate postwar period such consumption will level off and decline. Other non-fuel uses of natural gas may be expected to become increasingly important. Of these the manufacture of chemical products for use as solvents and for the production of plastics, synthetic fibers, coating materials and the like have had the most publicity although very little definite factual information about the hydrocarbon processing operations is generally available. A half dozen companies are actively engaged in the field of converting natural gas and natural gas hydrocarbons to strictly chemical products, though the latter are used by many other companies for the production of a vast number of synthetic materials.

In the discussion of such uses of natural gas, it is necessary to distinguish carefully between natural gas and refinery gases. The chemical industry which has grown up on the basis of refinery gases is already very large and growing rapidly. For the most part the olefins are the raw material of this industry. All of these olefins can be made from the natural gas hydrocarbons and, as already mentioned, some of these are being made. For the purpose of this report, therefore, it will be sufficient to point out that olefins can be made from natural gas hydrocarbons and that they are starting points for a great variety of important chemicals but that such products are more properly considered chemicals derived from petroleum, rather than chemicals derived from natural gas.

Chlorine

Chlorinated hydrocarbons are among the most important solvents and are used very largely for cleaning of fabrics and degreasing of metals. Some of these chlorinated hydrocarbons can be made as readily from olefins by addition of chlorine as from paraffins by substitution of chlorine for hydrogen, so that they are made from both. Others can be produced more readily from olefins, but there are some which can be produced most economically from the natural gas hydrocarbons, and the use of natural gas hydrocarbons for the production of chlorinated solvents is growing and will probably continue to grow. A large increase of chlorine-producing capacity was generated by the war emergency and much of the new capacity was constructed in the Southwest near supplies of natural gas. It is to be expected that chlorine from these plants will be used to produce chlorinated solvents from natural gas in increasing quantities.

A comparatively recent development has been the production of nitro-paraffins by the vapor-phase reaction of nitric acid with propane. The nitro-paraffins may serve as starting points for a large variety of organic chemicals, some of which have not been commercially available before, while others have been made by more round-about processes at higher cost. Here again the cost of the propane is a relatively minor item, and the operation need not be conducted near the point of production of the propane.

Organic Compounds

Oxygen-containing organic compounds may be derived from natural gas hydrocarbons by controlled oxidation with atmospheric air. The possibility of producing valuable materials using as raw material only natural gas and air has intrigued chemists for many years, but it was only within the last twenty years that a successful process was worked out. This process produces principally formaldehyde and methanol, although acetaldehyde and other minor products are also obtained. More recently another oxidation process has reached commercial stature. Its principal product is said to be acetic acid, starting material for acetate-type synthetic fibers and plastics. Butadiene, discussed above as principal intermediate in synthetic rubber production, contains no oxygen, but a new plant to produce it is said to employ the aldol process, and aldol is an oxygen-containing compound which can be made from natural gas hydrocarbons by a process involving partial oxidation.

The total amount of natural gas and natural gas hydrocarbons used in these strictly chemical ways is not very great. It has been estimated that the prewar annual production of methanol, amounting to 20,000,000 gallons, could have been produced from the gas from a single gas well of 10,000,000 cu. ft. daily capacity if conversion efficiencies were nearly perfect. Methanol production is now running at the rate of nearly 80,000,000 gallons per year and of course not all of it is being made from natural gas. A recent estimate of the basic raw materials used to produce resins and plastics in 1941 included 690,000,000 cu. ft. of natural gas. While the present production rate for plastics may be double that of 1941, and while plastic production may continue to increase rapidly, it is obvious that plastics cannot for many years to come consume more than a very tiny fraction of the natural gas production. Other specialty chemicals made from natural gas and natural gas hydrocarbons will certainly be less important from the standpoint of gas consumption, although they may be very important in the general economy from

(Continued on page 62)

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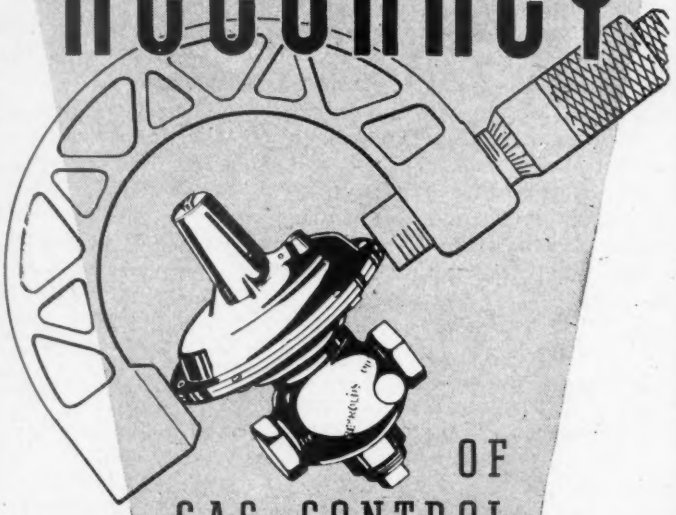

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RECENT COURT DECISIONS *Affecting Gas Utilities*

Modern Law Suits Unfolded

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

FEW MUNICIPAL and gas corporation executives have sufficient spare time to study complicated higher court decisions although designed to enable them to forestall and win litigations. Many new higher court decisions are in accord with modern principles. The fact that modern principles, at this time, change almost daily is convincing that "hear-say" law of yesterday is unreliable and certainly should not be relied upon, nor quoted.

In this article we shall review late and leading higher court decisions particularly on different important subjects of law, and applicable to modern situations and conditions. From these simplified new decisions readers should easily acquire knowledge to enable them to avoid similar legal controversies and, also, win unavoidable suits.

Not in "Light" Business

When considering and determining the validity of municipal license or tax ordinances, it must be kept in mind that a municipality possesses no inherent power to tax. This power must be authorized by the State Legislature, and also by the city's charter. If there is a doubt as to the delegation and existence of the power, the doubt will be resolved against the city. This is so because the state's delegation of the authority to tax must be clear, or the ordinance is void.

For example, in City of St. Charles v. St. Charles Gas Company, 185 S. W. (2d) 797, reported May, 1945, it was shown that a city enacted an ordinance which imposed a five per cent gross receipts tax on "Every person now or hereafter engaged in the business of supplying electricity, gas, telephone service or telegraph service, or water, for compensation for any purpose in the City of St. Charles." This ordinance was passed by authority of a state law which provides that municipalities may pass ordinances to levy a license tax on "light" companies.

A gas company which manufactured and distributed artificial gas for cooking and heating purposes contested the validity of the ordinance. During the trial it was proved that the gas company sold gas to only one customer who used it for illuminating purposes.

In view of this testimony the higher court held the gas company *not* subject to payment of the tax specified by the city ordinance. This court said:

"In effect, the city contends that a 'gas' company is a genus of 'light' company within the meaning of its charter. . . . Unless the business or occupation is specifically enumerated as one subject to a license tax, the general rule is that the municipality has no authority to so tax it."

City Purchases Utility

The constitutions of many states prohibit municipalities from purchasing capital or common stock in a corporation. It is important to know that a constitutional provision of this nature will not prevent a municipality from purchasing a gas company and issuing bonds to raise the agreed purchase price.

For illustration, in City of Springfield v. Monday, 185 S. W. (2d) 788, reported April, 1945, it was disclosed that a state constitution prohibits municipalities from becoming subscribers to the capital stock of any corporation.

A city ordinance was enacted which authorized the issuance of $6,750,000 of public utility Revenue bonds for the purchase of an electric light, gas, heating and transportation company. The ordinance provided that the sole purpose of the contract to purchase the utility was to acquire the gas and electric properties at the lowest cost to the city, and the utility would immediately be dissolved and all of its properties would be conveyed and transferred to the city to be owned and operated exclusively by the city. The ordinance, further, provided that the bonds shall be payable only from the income derived from the property used in connection with the electric and gas systems.

Several taxpayers intervened to contest the validity of the bonds. It was contended that issuing the bonds for purchase of a public utility violated the above mentioned constitutional provision.

The lower court agreed with this contention and held the bonds to be invalid. It is interesting to observe that the higher court reversed the lower court, and said:

"It is clear that the city is not subscribing to the stock of gas and electric and becoming a part owner therein, but in order to become the owner of its physical utility properties and is purchasing this stock solely to acquire them."

Power of Court

Generally speaking, a court may determine whether rates fixed by a Public Utility Commission are fair and just. However, the court cannot itself fix nor establish gas rates. But the commission may have valid powers granted by state laws such as to employ persons to make investigations, etc.

For illustration, in Railroad Commission v. Houston Natural Gas Corporation 186 S. W. (2d) 117, reported February, 1945, it was disclosed that under authority of a state law a city passed an ordinance reducing the rates for gas sold to the public in the city by the Houston Natural Gas Corporation, a gas utility. The gas corporation appealed to the Railroad Commission. In making its report the commission

used its employes and their evidence in the preparation of the various documents. Also, the question presented the court relates to the investigatory and inquisitorial powers of the commission to require the keeping of books, accounts and records by the gas company.

The higher court held that valid laws of this nature may be enacted by the State Legislature. This court, also, held that its sole power is to decide whether the rates established by the commission are fair and just, and that a court has no power nor legal right to fix gas rates. This court said:

"The questions here presented are public in nature, and the public, the utilities, the commission, and cities and towns all have an interest. . . . This provision gives the commission the authority to fix the final rates to be charged by the appealing gas utility."

Power of Public Service Commission

Modern higher courts hold that a Public Service Commission has no strictly judicial functions, but only such quasi-judicial functions as are implied or incidental to its legislative and administrative functions.

For example, in Sun Company v. Potter, 182 S. W. (2d) 923, reported December, 1944, it was shown that the Public Service Commission issued an order in violation to a state law. The commission granted the permit because it believed that it would be assisting a corporation to avoid serious losses.

The higher court revoked the order because the commission failed to follow and abide by state laws.

Gas Explodes

Any company may be liable for injuries resulting from maintenance of a dangerous appliance.

For illustration, in Gerald v. Standard, 16 So. (2d) 233, the testimony proved that a tenant was severely injured as a result of an explosion occurring in a building which he occupied as a residence. The tenant sued the owner of the building and also the Baton Rouge Coca-Cola Bottling Company for damages.

During the trial the tenant testified that as he lay in a bedroom situated in the front portion of the building, he "detected the odor of gas fumes to some extent." Shortly thereafter he arose from his bed and struck a match to light a cigarette. A tremendous explosion followed.

The injured tenant alleged that the owner of the building was liable because he permitted the bottling company to place advertising signs about the edge of the flat top roof of the building, which signs extended completely across the front thereof at a distance of about 32 feet in length and approximately 20 inches in height. The injured tenant alleged that the bottling company was liable because its signs obstructed three sides of the roof, and the escaping gas fumes from vent pipes, was thereby prevented from escaping.

Although the lower court held the bottling company not liable, the higher court reversed the verdict. The court said:

"And, in this connection, it is common knowledge that gas fumes in a room can affect one's sense of smell without being sufficient in quantity and density to result in a fire or explosion on their coming in contact with a lighted match."

Expert Testimony

A review of late and leading higher court decisions discloses: If a gas company's counsel produces "expert" testimony but *fails* to supplement such testimony the company will not be awarded a favorable verdict, as based upon the expert testimony.

For example, in Oklahoma Natural Gas Company v. Kelly, 153 Pac. (2d) 1010, reported December, 1944, a woman, named Kelly, sued the Oklahoma Natural Gas Company to recover damages for personal injuries. The jury returned a verdict for Kelly for $1,700. The gas company appealed to the higher court. During the trial the testimony proved that a motor truck owned by the gas company had negligently run into the back of the automobile in which Kelly was riding. She testified that just prior to the accident she was a normal person, 25 years of age, in good health, physically sound and with no curvature of the spine; and that immediately after the accident she had a headache, pain in the neck and back, and was nervous and nauseated.

The counsel for gas company contended that the alleged back injury was not permanent and furthermore no certain testimony proved that Kelly had sustained the alleged injury in the automobile accident.

The higher court approved the verdict rendered by the jury although the counsel for the gas company called two medical doctors as experts who testified that, in their opinion, the curvature of her spine was permanent and congenital, and was caused either by infantile paralysis or by an improper posture during the growing period, and that it had existed for from 8 to 13 years. They testified that in their opinion it could not have been caused by the accident. However, since no supplemental or corroborative testimony was given to verify the doctor's testimony the higher court approved the jury's allowance of damages, and said:

"Where such evidence is not corroborated or supplemented by other evidence, such evidence, standing alone, is generally held to be insufficient to make out a prima facie case."

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Breathing vs Inhaling

The fact that many gas company employes, and other persons, die or suffer injuries from gas fumes results in knowledge of interpretation by modern higher court decisions of insurance policies in this subject being important.

It is important to know that the higher courts have adopted a ruling that the words "inhaling gas" means intentional, voluntary or conscious act of the insured.

For illustration, in Levinson v. Reliance Life Insurance Company of Pittsburgh, Pennsylvania, 41 Atl. (2d) 485, reported May, 1945, it was shown that an employe held an insurance policy which contained a clause that the policy is void if the death of the insured shall result directly or indirectly from inhaling of poison or inhaling of gas, whether accidental or otherwise.

The insured was asphyxiated by illuminating gas. The insurance company refused to pay the insurance to the beneficiary in view of the above mentioned clause in the policy. The beneficiary sued the insurance company and contended breathing gas by a person does not constitute "inhaling" gas within the meaning of the policy, because it was not a voluntary, conscious or intentional act of the insured.

Although the lower court held the insurance company *not* required to pay the insurance, the higher court reversed the verdict, saying:

"In the case at bar, the allegation of death from asphyxiation by illuminating gas is tantamount to an allegation that the gas was breathed."

Therefore, this court established law that when one is asphyxiated he does *not inhale* gas, but he merely breathes it.

Also, see Stone v. Physicians Casualty Ass'n, 266 N. W. 605, where the court said:

"We have come to the conclusion . . . that a person suffers death as a result of suffocation by gas whether death was due to a deficiency of oxygen in the blood or to an interruption of the physical act of breathing that would prevent the inhalation of sufficient oxygen into the lungs. In the ordinary and popular sense, either results in death by suffocation by gas."

Wife's Testimony Convinces Court

Generally speaking, positive proof must be given that an employe's death was caused while he was working within the scope of the employment. Otherwise his employer is not liable for payment of compensation. Sometimes the court will base its decision upon what appears to be insufficient or unimportant testimony.

For illustration, in Stough v. Illinois Company, 52 N. E. (2d) 992, it was shown that an employe died. His dependents sued to recover compensation under the State Workmen's Compensation Act. During the trial proof was given that while the employe was attending to his regular duties he inhaled some escaping gas which aggravated and accelerated an organic heart condition from which he was then suffering. Such aggravated and accelerated organic heart condition ultimately caused his death. Although the lower court refused to grant compensation the higher court reversed the verdict and stated important law as follows:

"The burden was upon the claimant to prove that the decedent's death was the result of an injury sustained in the course of his employment."

The important point in this case is that the only testimony proving that the employe had inhaled gas was his wife's testimony, as follows:

"When he came home, he had his key and he came upstairs and he called me and he was throwing up and I said, 'What made you sick?' and he said, 'I got too much gas,' and I said, 'Did you have a doctor?' and he said, 'No'."

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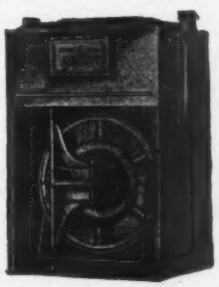

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Supreme Court Decision Extends FPC Power Over Natural Gas

THE United States Supreme Court has affirmed an order of the Federal Power Commission pegging the price of natural gas produced by the Canadian River Gas Company at actual cost of production. The decision extends the rate-making power of FPC from the end of the line to the mouth of the well. The Court's approval of FPC's rate formula of linking cost of production and gathering with cost of transportation and sale in a single rate base, makes natural gas a public utility—the first fuel to receive that status. Many producers and public officials in the producing States view this extension of the price-fixing power of FPC as another step toward ultimate Federal control.

Fair Field Price Denied in Close Decision

Although the Natural Gas Act expressly provides that its terms and provisions shall not apply to production and gathering, the Court, by a 5-to-4 majority, reached the conclusion that since the Natural Gas Act failed to allow the fair field price of gas as an operating expense and did not exclude production and gathering facilities from rate orders, FPC did not err in including only actual cost of production and gathering in the Company's rate base. The majority opinion of Justice Douglas, concurred in by Justices Black, Murphy, Rutledge and Jackson, said:

> **"When a natural-gas company which owns producing properties or a gathering system is restricted in its earnings by a rate order, the value of all of its property is affected. Congress of course might have provided that producing or gathering facilities be excluded from the rate base and that an allowance be made in operating expenses for the fair field price of the gas as a commodity. Some have thought that to be the wiser course. But we search the Act in vain for any such mandate."**

Although the opinion recited that such treatment would indirectly affect producing properties and gathering facilities and reduce their value, it held that:

> **"Since there is no provision in the Act which would require the Commission to value the gas at the price urged by Canadian (fair market value as a commodity), the problem on review would be whether the end result was unjust and unreasonable. * * * If the total effect of the rate order cannot be said to be unjust and unreasonable, judicial inquiry under the Act is at an end."**

Concurring Judge Critical

Justice Jackson, although concurring in the majority opinion, sharply criticized FPC's formula and pointed out some "delirious results" in the following words:

> **"* * * To let rate-base figures, compiled on any of the conventional theories of rate-making, govern a rate for natural gas seems to me little better than to draw figures out of a hat. These cases confirm and strengthen me in the view I stated in the Hope case that the entire rate-base method should be rejected in pricing natural gas, though it might be used to determine transportation costs. These cases vividly demonstrate the delirious results produced by the rate-base method. These orders in some instances result in three different prices for gas from the same well. The regulated company is a part owner, an unregulated company is a part owner, and the land owner has a royalty share of the production from certain wells. The regulated company buys all of the gas for its interstate business. It is allowed to pay as operating expenses an unregulated contract price for its co-owner's share and a different unregulated contract price for the royalty owner's share, but for its own share it is allowed substantially less than either. Any method of rate-making by which an identical product from a single well, going to the same consumers, has three prices depending on who owns it does not make sense to me.**
>
> **"These cases furnish another example of the capricious results of the rate-base method in this kind of case. The Commission has put five of the most important leaseholds, containing approximately 47,000 acres, in the rate base at $4,244.24, something under 10 cents per acre. Three such leases are put in the rate base at zero. This is because original cost was used, and these were bought before discovery of gas thereon. The Company which took the high risk of wildcat exploration is thus allowed a return of 6½ per cent on nothing for the three leases and a return of less than $300 a year on the others. Their present market value is shown by testimony to be over 3 million dollars.**
>
> **"I cannot fairly say that the Commission exceeded its jurisdiction in obtaining this evidence and making these calculations, even though the evidence related to production and gathering of gas. But I do think it is a fantastic method of fixing a 'just and reasonable' price for gas. * * *"**

Four Judges Dissent

Chief Justice Stone, in a vigorous dissenting opinion, concurred in by Justices Roberts, Reed and Frankfurter, said:

> **"* * * Even though production and gathering could be thought to be a part of the regulated transportation and sale, that possibility is precluded by the words of Sec. 1(b) which says: 'The provisions of this Act (including those of Secs. 4 and 5 which prescribe rate making for the activity of transporting and selling wholesale) shall not apply' to another activity, 'the production or gathering of natural gas.'**
>
> **"It does not seem possible to say in plainer or more unmistakable language that the one activity, interstate transportation and sale, is to be subjected to, and that the other, production or gathering, is to be excluded from, the valuation and rate making powers of the Commission.**
>
> **"* * * The exclusion of production and gathering of natural gas from the regulatory authority of the Commission is a command to the Commission not to regulate that which is excluded. Otherwise powers reserved to the States would be encroached upon contrary to the words and purpose of the Act, and a pretended government would be set up by Commission action, without the authority of Congress.**
>
> **"* * * Petitioner urges that there are other courses open to the Commission which will not violate the statute, and that there is uncontradicted evidence in the record showing that natural gas has a market value at the well-head and at the point of delivery into petitioner's transmission line. Those conditions would indicate that gas production property in the area in question has an ascertainable market value on which, in the absence of regulation, petitioner is free to receive the return currently produced by such property.**
>
> **"* * * It is the duty of the Commission so to conduct its proceedings as to restrict its action within the jurisdiction conferred upon it. It is plain that it has not performed that duty here, and that it should be required to do so. Whether the facilities for the production of natural gas should be regulated and, if so, whether the regulation should be left to the States, as we think Congress has left it, are matters for Congress to determine. If it be thought that petitioner's profits from production of gas are too great because they are unregulated, and if it be thought to be important that they be reduced, it is immensely more important that that be not accomplished by lawless action."**

INGAA Takes Prompt Action

The Independent Natural Gas Association of America, through its officers and staff, took immediate steps to relieve the industry from the portent of the decision. It applied to the Supreme Court for a rehearing. Its attorneys will point out the dangers of the philosophy that "the end justifies the means" and will urge the unsoundness of assuming that powers were delegated because they were not expressly prohibited.

In the event rehearing is denied, relief will be sought by amendments to the Natural Gas Act.

Independent Natural Gas Association of America

SOME TIME next November it is expected, will be held the first annual meeting of the Independent Natural Gas Association of America, which, founded less than a year ago has already become an important factor in promoting the interests of the natural gas industry.

Consecrated to the interests of no particular group, the Independent Natural Gas Association of America was established to promote the welfare of the industry as a whole. Its membership is widely distributed in 24 states, and is made up of royalty owners, natural gas producers, and pipe-line operators, the first two classes constituting 44 and 43 per cent of the total and the transmission-line operators the balance. It concerns itself with all questions affecting the prosperity and progress of natural gas, except price regulation. This is what its charter prescribes as its aims and prerogatives:

"To promote and advance the welfare, progress, and development of the Natural Gas Industry in the United States, and particularly to protect the interests of the producers of natural gas.

"To promote the improvement of the Natural Gas Industry's service to the general public.

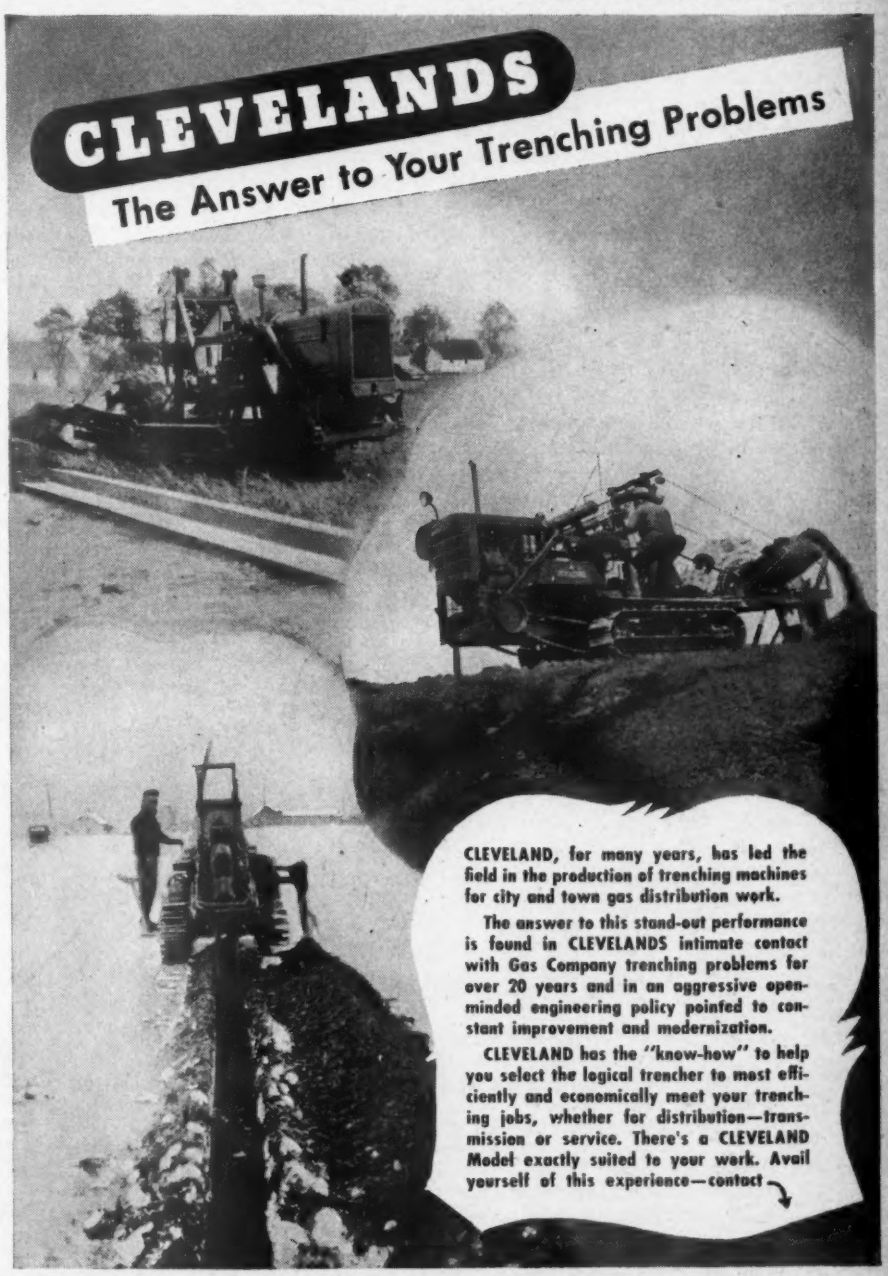
"To co-operate with officials of governmental agencies in any program considered essential to the national welfare."

In furtherance of such purposes the Association is empowered to disseminate information of all kinds, including that of interest to the general public and to its members, especially that regarding legislation affecting natural gas, the statistical position of the industry, and its technical and scientific advancement.

The Association is empowered also to represent the Natural Gas Industry before legislative and administrative bodies, and to draft instruments of legislation, and to do everything of which it is capable to promote good relations between the natural gas industry and the public.

Officers of the Independent Natural Gas Association of America are: E. Buddrus, Chicago, Illinois, President; Paul Kayser, El Paso, Texas, 1st Vice-President; J. H. Dunn, Amarillo, Texas, 2nd Vice President, and F. W. Peters, Tulsa, Oklahoma, Treasurer. The directors, in addition to Messrs. Buddrus, Kayser, and Dunn, are: Mark H. Adams, Wichita, Kansas; Clyde H. Alexander, Corsicana, Texas; Burt R. Bay, Omaha, Nebraska; Joseph Bowes, Tulsa, Oklahoma; R. L. Carr, New York City; A. B. Harper, Fort Smith, Arkansas; D. D. Harrington, Amarillo, Texas; LeRoy M. Edwards, Los Angeles, California; L. E. Ingham, Owensboro, Kentucky; Paul R. Johnson, Independence, Kansas; E. C. Joullian, Oklahoma City, Oklahoma; Harry L. Mann, Memphis, Tennessee; Oscar Nelson, Charleston, West Virginia; W. G. Skelly, Tulsa, Oklahoma; William H. Wildes and C. H. Zachry, Dallas, Texas.

The Mid-Continent Office is in the First National Building, Oklahoma City, Oklahoma, and is under the direction of Chas. L. Orr, who, before assuming his present position, was for five years secretary of the Interstate Oil Compact Commission. The Washington Office of the Association is in charge of John A. Ferguson, Executive Director of the Association, who, for some years, was senior member of the Missouri Public Service Commission.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"CLEVELANDS" Save More . . . Because They Do More

The Interstate Oil Compact Commission —Its Objectives

By

Franklin Williams

FROM relatively small beginnings, the Interstate Oil Compact Commission, has become one of the most powerful agencies for the promotion of the petroleum industry in the country. A purely voluntary organization, having no set dues or no obligations, its membership is made up solely of states, of which there are now fifteen, namely Arkansas Colorado, Illinois, Kansas, Kentucky, Louisiana, Michigan, Montana, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, Texas, and West Virginia, each state being represented ex officio by its governor, who may serve on the directorate himself or designate an alternative, generally an outstanding oil or gas man. Each state's contribution to the general fund is decided by itself. There is no effort to influence its action.

The Interstate Compact to Conserve Oil and Gas was formed at Dallas, Texas, February 6, 1935, having superseded the Oil States' Advisory Committee which following the dissolution of the N.R.A. had been declared unconstitutional by the United States Supreme Court. The framers of the new compact however, were careful to have it ratified by Congress, and six states immediately signed it. These were Oklahoma, Texas, Kansas, New Mexico, Colorado, and Illinois.

Not wishing to bind the state, all contracts were limited to two years to provide against the contingency of administration change. This has been the policy pursued ever since, and reratification has succeeded reratification with no amendments to the original instrument, constituting, perhaps, a record in an authority of this character.

The aims of the Interstate Oil Compact Commission have been set out for the readers of *American Gas Journal* by its secretary, Earl Foster, as follows:

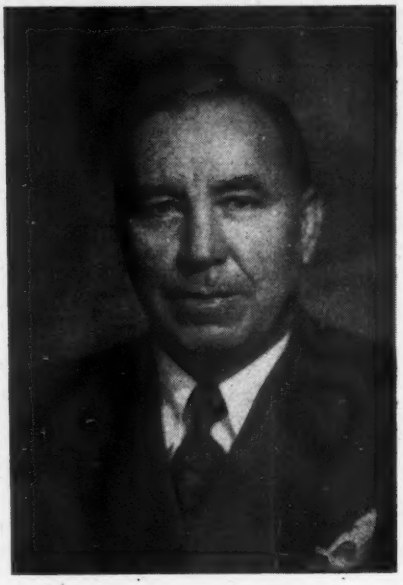
"The objectives of the sovereignties signing the interstate oil compact were clearly and concisely set forth in Article II of the Agreement in a sentence of only twenty-one words which read: 'The purpose of this compact is to conserve oil and gas by the prevention of physical waste thereof from any cause.' Those 21 words have since proven to be the most potent 21 words in petroleum.

"To best accomplish its purpose, the Commission sought first to enlighten itself, and then to obtain and make available to the states and the public, authoritative information concerning all phases of oil and gas conservation.

"Seeking to consolidate the positions of its various members and to reconcile their divergent opinions as to what constituted true conservation, study committees on cooperation, coordination, and consumption were appointed. These committees conducted exhaustive studies on matters peculiar to their individual spheres. Their reports were studied, augmented, and approved by the Commission and then disseminated to the public.

"Quarterly meetings, open to the public, were inaugurated by the Commission and held regularly in various of the oil producing states. To these meetings the representatives of the states and the industry brought their problems where they were thoroughly

Earl Foster, Secretary
Interstate Oil Compact Commission



Hon. Andrew F. Schoeppel
Governor of Kansas
Chairman of the Interstate
Oil Compact Commission

and publicly discussed and their solution earnestly sought. (These quarterly meetings are still being held with increasing success and much benefit to the states and the industry.) The conciliatory effect of thus meeting across the conference table erased the initial feelings of antagonism and rivalry that prevailed in the early days of the Compact.

"Cloaked only with the power of inquiry and recommendation delegated by Article VI of its charter, which provided that the Commission shall 'make inquiry and ascertain' means for bringing about conservation and the prevention of physical waste of oil and gas and report its findings and recommendations to the several states for adoption or rejection, the Commission immediately turned to a thorough study and comparison of the administration of the oil and gas conservation statutes of the various states.

"As a result of its study the Commission prompted the compilation of a comprehensive analysis of the then existing regulatory Acts which was destined to later become the basis for the determination of the requirements of a model oil and gas conservation law.

"With the passage of time, the Compact Commission continued to widen its scope and expand its activities and influence. By the appointment of permanent working committees, with memberships composed of outstanding technical and professional men, the Commission has been enabled to conduct inquiries, surveys, and studies of various conditions affecting the oil industry. Today the

results of the work of the Compact Commission and its committees reach into nearly every state in the Union. With its reports, surveys, findings, recommendations and other information going regularly to the thousands of persons on its mailing list, the Commission awakens the public consciousness and the state legislative mind to the importance of the conservation of oil and gas.

"As conditions and circumstances have changed within the industry, the Interstate Oil Compact Commission has exhibited its versatility in keeping attuned to the needs of the time. This fact may best be illustrated by noting the transition of its efforts from originally dealing with problems arising from overproduction and too great a supply of oil, to the problems encountered in seeking new sources of increasing production and supplementing a lack of adequate petroleum supplies.

"In the latter case, the Commission, at the outset of the war, tendered its every cooperation and facility to the President and all agencies of the federal government charged with the responsibility of maintaining a constantly available supply of petroleum and its products to meet the ever-increasing military demand and the needs of essential civilian economy. The Commission has been unrelenting in its efforts to aid in accomplishing that goal.

"Since its creation in 1935, not a single state has exercised its right to withdraw from the Compact. Its initial membership of six states has been more than doubled by the addition of the states of Arkansas, Louisiana, Michigan, New York, Pennsylvania, Kentucky, Ohio, Montana and West Virginia. The Compact Agreement has been regularly renewed and extended without provisional change except as to expiration date.

"The Interstate Oil Compact Commission, founded upon the principle of voluntary cooperation in the furtherance of oil and gas conservation, has become recognized as a working example of successful voluntary interstate cooperation in the guidance of a most important industry in a thoroughly democratic manner. It is wholly dependent upon state sovereignty for vitalization by public officials, of its respective member states, of the recommendations made to the states. It carries on its mission as a consulting and advisory body without any powers of compulsion. It issues no directives and has never sought to arbitrarily impose its will upon any state. Its only force is that of enlightened public opinion and the prevailing influence of right."

Personnel

The present officers of the Interstate Oil Compact Commission are Hon. Andrew F. Schoeppel, Governor of Kansas, Topeka, Kansas; J. C. Hunter, Abilene, Texas, 1st Vice-President; Warwick M. Downing, 2nd Vice-president; Earl Foster, General Executive Secretary, and Elmer G. Dahlgren, Technical Adviser. Its present executive board is composed of the following: Hon. Andrew F. Schoeppel; Hon. Robert S. Kerr, Governor of Oklahoma. Oklahoma City, Oklahoma; Hiram M. Dow, Roswell, New Mexico, and Hon. Sam H. Jones, Ex-Governor of Louisiana, Lake Charles, Louisiana.

Following are the chief standing committees, with their chairmen: Legal, Earl Foster, Chairman; Regulatory Practises, Theo. A. Morgan, Director of Conservation, Wichita, Kansas; Interstate Relations, W. J. Holloway, Ex-Governor of Oklahoma, Oklahoma City, Oklahoma; Research and Co-ordination, Lloyd L. Jordan, Acting Chairman, Arkansas Oil & Gas Division, El Dorado, Arkansas; Engineering Dr. E. DeGoyler, well-known geologist; Public Lands, Judge Warwick M. Downing, Denver, Colorado; Economics, Alexander Sachs, New York City; Laws, Hiram M. Dow, Former Lieutenant Governor of New Mexico, Roswell, New Mexico.

Southwest Personnel Conference American Gas Association

M. V. Cousins, Personnel Director, United Gas Pipe Line Company, and Chairman of the American Gas Association Southwest Personnel Conference, has appointed Willard G. Wiegel, Personnel Director, Lone Star Gas Company; Grover Jones, Secretary, Houston Natural Gas Corporation; and Robert G. Kenan, Manager Personnel Department, Southern Natural Gas Company, as a nominating committee to name a chairman and other officers for the Conference for 1946. Mr. Wiegel will serve as chairman of the nominating committee which will make recommendations as to the time and location of meetings for next year, as well as the subjects to be discussed.

At the recent meeting of the Conference at Shreveport, La., where Mr. Cousins presided, members discussed reemployment of veterans and new regulations governing deferment of essential employees. Interesting statistics were presented regarding Selective Service Headquarters' reports on discharged veterans who are presently being returned to civilian life.

House organs were discussed with a view to determining the type of information that should be included to make such publications more attractive, and representatives of companies publishing house organs were requested to bring copies of their respective magazines to the next meeting for further discussion on this subject. Thrift and pension plans, job relations training courses and employee-customer relations courses were subjects in the general discussion at the meeting.

As soon as hotel reservations can be obtained, members will be informed by Chairman Cousins, as to the time and place of the next meeting of the Conference.

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Training Appliance Salesmen

By
J. E. Bullard

THERE ARE certain facts which call for serious consideration when formulating plans for selecting and training the salesmen which will be needed in the postwar period. One of these facts is that every gas company will need a sales force whether or not it sells appliances. Experience has demonstrated that when a company turns over all appliance selling to dealers, those dealers and their salesmen become what is virtually a sales department of the gas company. Some dealers in the territories of gas companies which sell no appliances have been extremely successful. They have been good business men, expert salesmen, shown remarkable ability in selecting and training the men who work for them and have built up truly amazing sales records. Such dealers require little or no coaching by the gas company. As a matter of fact, the company may learn a great deal from them. Such dealers, however, are few and far between. There are many times more dealers who will secure at least reasonably good results if the gas company sales department does all it can to train them, co-operate with them and arouse their enthusiasm for selling gas appliances. If they are left entirely alone, the sales they make are likely to prove disappointing.

Assisting the Dealer

As a class, plumbers have not yet mastered the art of merchandising to the degree department stores, for example, have. They have been making progress but are likely to need help in building up efficient sales departments. Others who may sell appliances are likely to need assistance at the start. It may be desirable to help them select salesmen and then to help them train them. In all cases, dealers can be considered as, in so far as gas appliances are concerned, gas company salesmen. The main difference is that where dealers sell the appliances and the gas company does not, there are likely to be many times more active salesmen than would be the case if all appliance sales were made by the gas company itself and, provided the dealers are given all the assistance and co-operation they need, sales volume will be higher. So what applies to the selecting and the training of gas company salesmen, applies to a very considerable degree to the selecting and the training of dealers and in some cases, at least, to the selecting and the training of the salesmen of those dealers.

A second fact is that there is bound to be a shortage of experienced salesmen after the war. The younger and most able bodied salesmen in all lines of business have been in the armed services. Since civilian production has been reduced to such a degree that the need of salesmen has been decreased to a marked degree, comparatively few new salesmen have been trained during the past three years. Young men who, in normal times, would have entered the sales field as soon as they graduated from high school or college have gone directly from school or college into the armed forces and in many cases have done so before they have completed their education. The number of salesmen who have continued to be active in the selling field during the war is a small percentage of the number which will be required after the war ends.

More Salesmen Required After the War

All of the industries which employed salesmen before the war will have to increase the number in their employ greatly after the war. New products will be placed upon the market, new industries will be started and these will require salesmen. The outlook is that there will be a greater demand for salesmen than ever before and a smaller supply of experienced and successful salesmen from which to draw. Such a situation calls for intensive training of inexperienced men. It also means that it is important to start building up the new sales departments just as soon as possible.

Obviously, a very large percentage of the men who are selected by the gas companies for sales training will have to come from among the veterans of this war. Disabled veterans are being discharged from the services in ever increasing number. The prospects are the number will continue to increase until the war with Japan is over. Some of these veterans who were working for gas companies before they entered the services will not be disabled so seriously as to disqualify them for the same work they were doing before they entered the armed forces. Others will be. Some of these can be developed into good salesmen. At any rate, the idea is worth serious consideration. They will know much more about the gas business than will those who never worked for a gas company before.

Certain characteristics have come to be considered desirable on the part of those who are to be trained for sales work. Among them are a personality which makes a good first impression on strangers and which continues to make a good impression, talent for meeting and talking with others, confidence in the company for which they work and in the product or services sold. All these, however, are largely surface characteristics. The ability to work hard and long at the job is of even greater importance. Those sufficiently determined to succeed have a way of overcoming all obstacles in their way. For this reason some of the veterans are going to make better salesmen than they would have without that war experience they have gained. They have learned, as they could not have learned in any other way the importance of courage, determination and persistence.

Salesmen have to meet many discouragements. They have to do their work alone, that is, they do not work in groups as most other employes do. The nervous tension of their job is greater than it is in the case of most other gas company work. To make sales they may have to make calls in the evenings.

Since the last war there has been a tendency to set the educational requirements for new salesmen higher and higher. This has been due partly to the fact that college enrollments increased. It has been possible to employ graduates of good engineering schools as industrial gas salesmen. Such men, especially, if they have had actual shop experience can be expected to do better work than those who have not had the technical training and experience these men have had. In addition to the industrial gas uses of the past the prospects are that air conditioning by gas will offer a greater market than ever before. The very fine pro-

duction tolerances which have become standard require in many cases automatic control of room temperatures and in some industries humidity as well. The combined house heating and conditioning units which are being developed indicate also more and more of the house heating by gas will include air conditioning as well.

Trained Men Desirable

Technically trained men are desirable in this sort of sales work but those who would have been in engineering schools during the past three years have been in the armed forces, instead, to a greater and greater degree. An indication of the present shortage of graduate engineers is indicated by the fact that in the March, 1945, issue of Mechanical Engineering there are twenty-four advertisements calling for engineers and only nine advertisements by engineers looking for jobs. Many of the firms advertising for engineers need several and state they need them because of postwar programs. Therefore, the competition for the services of all available engineers promises to be keen and sales departments may be forced to select the best material from veterans who have had most of their training and have received at least part of their education in the army or the navy.

Due to the difficulty which may be expected in finding and selecting new salesmen which approach the standards set up in the prewar years, training of new men becomes more important than ever before. Too much attention cannot be given in this training to information about the gas industry and the particular gas company for which the man is to sell. Usually the more a new salesmen knows about the company for which he works the better the results he will obtain.

Knowledge of Production an Aid

The training course, therefore, may well start at the gas works. The new men are shown how gas is produced. It may be well to have one or more of the engineers at the plant deliver lectures to the new men, in case a number are being trained. Where there are only a very few an informal talk in the office will serve the purpose. This general plan of familiarizing the new men with the company and the gas industry may well be followed in the case of all gas company departments. It may not seem important that the new men be given such a course of instruction. Yet, it has come to be more and more generally recognized that the more a salesman knows about the company for which he works, the better the results he obtains. When he gets out into the field making sales, he is bound to hear a lot about his company and not all he hears will be favorable. Hence, the importance of providing him with the facts at the very start.

In the case of appliances, the new men need to be given all the facts about them. It is a help if they can visit a factory in which they are manufactured and see for themselves how they are made. The next best is to provide for lectures by representatives of the manufacturers and, if possible, have these illustrated with motion pictures and lantern slides.

In the case of industrial gas and house heating and air conditioning, present installations may be inspected and reasons pointed out why the sale was made in the first place, how gas has solved problems, etc. The problem is to provide these new men with as many facts as possible in the time available.

Preparing Effective Sales Course

Or, several gas companies after the war, could join together and prepare

NOW LINKED for Strength and Service

To "PAYNEHEAT'S" 30 years' specialized experience and nationwide reputation for fine furnaces are now added the great resources and technical facilities of Dresser Industries, Inc. ★ Thus, sales horizons are widened, postwar opportunities enlarged for PAYNE representatives everywhere. And they will have, as an added, *exclusive* sales stimulant . . . . . .

PAYNE "ZONEAIR" Compact, streamlined, efficient. Distinguished by advanced engineering.

PAYNE ZONE-CONDITIONING

Circulated winter warmth, cooling summer ventilation, *controlled by zones, rooms or apartments* . . . successor to old-fashioned central heating!

Request FREE booklet.

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(One of the DRESSER Industries)
BEVERLY HILLS, CALIFORNIA

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OVER 30 YEARS OF LEADERSHIP

GAS FUEL (HAS) EVERYTHING

an effective course of study and send all their new salesmen to take the training. A program much like that of The National Commercial Gas Association back in the 1910s could be followed or one more like that of the 1920s. That is, the training could be done by some established educational institution with fully qualified gas men doing some of the instructing. The training, however, should be complete and thorough and no training center can take the place of each gas company familiarizing each new salesmen with every department of the company for which he works.

Regardless of the method used, it is important that the new salesman knows the company for which he works and the products or the services he sells. To make certain he does, requires examinations as he is given instruction. These may be written or oral. They may take the form of general discussions with each man being required to take part. New men who do not absorb the knowledge which is imparted to them cannot be expected to make the best possible records as salesmen. This holds, of course, in the case of everything they are taught.

The man who knows all there is to know about his company, the gas industry as a whole, the advantages of using gas, the appliances in which it is burned, etc., has a decided advantage over one who lacks this knowledge. Yet, he may not make as many sales as it might seem he should.

Sales Training

Every salesman, to make a sale, must gain the attention of the prospect, arouse interest in what he is selling, create a desire for it and then close the sale. He must learn how to make the proper approach and how to make his departure as soon as possible after closing the sale. Sales have been lost after they have been made because the salesman stayed around too long and the prospect changed his or her mind.

The training of new salesmen, therefore, may well include a strictly sales course. Such a course can be given at some training center to which it is convenient to send the new men. It should be thorough and all instructors should be fully qualified to teach salesmanship.

After all this training has been completed, however, it still is desirable to have the new man go out with an experienced salesman and see how sales actually are made. Of course, in the old days, this was considered all the training required. A new man went with one of the older salesmen one day, with another the next and so on until he had had a day with each man on the sales force. This part of the training, however, is much the same as that which a young doctor gets when he is serving an interneship in a hospital. Long since, it has come to be considered insufficient for a doctor to get all of his instruction and training in this manner. Also, it has been found that the more thoroughly a new salesman is trained, the more he profits by going into the field with an experienced man to observe how sales actually are made in practice.

Training Never Stops

In the most successful sales department training never stops. Some sales managers believe daily sales meetings pay. Some prefer weekly meetings. At these meetings talks may be given by representatives of the manufacturers whose products are sold. Sales demonstrations may be made. The sales manager himself may give a talk to his men. There are several objectives of such meetings. One is to keep the men fully informed regarding what they are selling. Another is the exchange of information between the men in the department. A third is to maintain enthusiasm. If the meeting programs are such that the men like to attend the sessions, much is accomplished. If, on the other hand, the meetings lack interest and the men are listless, they may do little or no good.

On the whole that sales department in which there is the most complete and effective teamwork secures the best results. That department where there is a lack of team work produces the poorest results. The developing of team work is important. Many a sale has been closed because the salesman could call upon another man in the department or upon the sales manager, himself, the two of them make the call together and present new arguments to the prospect. The degree to which team work is effected, of course, depends a great deal upon the manager of the sales department. He can be handicapped, however, if the general sales policy of a company or method of paying the salesmen is such as to discourage team work.

After all, not so much actual salesmanship has been required during the war to sell gas. After the war it will become desirable to develop just as many new uses as possible. At least some of the new products which it can be expected will be placed on the market as soon as possible after the war ends should have production problems which can be solved best through the use of gas.

All this means that even the oldest and most experienced gas company salesman may have a lot to learn when civilian production gets under way once more. So, it could be a mistake to confine all the training to new salesmen. It might result in placing the older ones at a decided disadvantage. Since no one can be certain when the war ends, even that it will not end before this is in print, it is obvious the selecting and the training of salesmen should be started right now if not already done.

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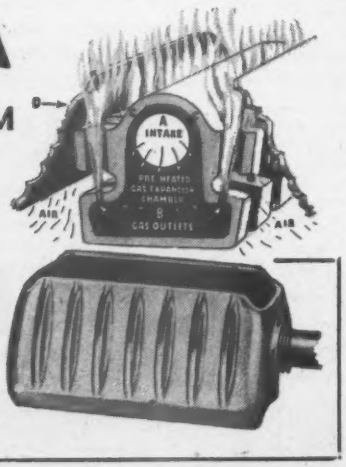

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Report of Post-War Planning Committee Indiana Gas Association

AT A MEETING of the Indiana Gas Association Sept. 15, 1944, a postwar planning committee was appointed. At a meeting in Indianapolis, May 3, 1945, the committee made its report on postwar home building.

Recommendations

Discontinue Post-War Planning Committee.

Set up permanent steering or planning committee composed of a chairman and the chairmen of the various standing committees and the Vice-President of the Association to meet soon after the Annual Meeting and agree on work assignments for coming year. Work of individual committees not to be limited to these assignments.

1. Four exhibits
   - A. Age of Indiana Housing
   - B. Character of Need (non-farm)
   - C. Detail of Need by rental value at 1944 price levels
   - D. Detail of Need by rental value at 1940 price levels
2. Indiana portion of National Program is about 2½%

$$12{,}600{,}000 \times 2.5 = \frac{315{,}000}{10}$$

= 31,500 homes per year to be built in Indiana (non-farm)

3. 75% New Housing under $40 Rental @ 1940 price level
   51% New Housing under $40 Rental @ 1944 price level
4. Residential Gas

Service 1943	17.4c per therm
Group Housing Service	7.8c per therm
Difference	9.6c per therm

130 therms per year @ 9.6c = $12.48

5. Effect on investment per customer
6. Trend toward Urban Redevelopment

Housing Plans Come in Focus (Business Week—4-14-45)

Private Industry at its peak year only constructed 900,000 homes.

1,300,000 homes estimated yearly Post-War Need.

Contribution to full employment.

Taft Subcommittee on Housing and Urban Redevelopment

- May influence legislation by Senator R. F. Wagner's Banking Committee
- Senator James E. Murray's Labor Committee
- Permanent Federal Agency recmended
- John Blanford: Present N.H.A. Includes F.H.A.; F.P.H.A.; F.H.L.B.A.;
- Producers Council: Overall Supervisory Agency with housing policies stipulated by Congress.
- Citizens Housing Council: Housing Administrator made a Cabinet Member.
- U. S. Savings & Loan League: Separate Lending and Housing Agencies. Housing officials would not be inclined to encourage thrift and home ownership.
- National Savings & Loan League: Credit agencies kept in subordinate position. Functions weakened by agency not strictly financial.
- N.A.R.E.B.: Have two major housing agencies—
  - (a) Bureau of Housing and Urban Research
  - (b) Federal Home Finance Board

Thinking Trends Toward a Four Point Program

Lower construction costs
- eliminate obsolete building codes
- action against price fixing
- supervised zoning
- regulated land use

Broader research

More flexible credit
- Permit savings & loans to invest in
- F.H.O. insured mortgages
- Treasury to buy debentures of F.H.L.B.A.
- Longer amortization and smaller equity risks
- Low cost credit and risk insurance for builders
- Equity protection against unemployment

More Low Rent Housing
- yield insurance plan to permit Life Insurance Companies to own and operate rental housing with low return guaranteed by the Government.
- Mutual Home Ownership Corporations

Larger Housing Subsidy

Federal Public Housing Authority studying local needs as basis for request for added subsidy authorization.

Permit immediate loans to local authorities for advance planning.

Permit F.P.H.A. to acquire and operate local projects in default.

All agree, post-war construction follow master plan of coordinated redevelopment.

Method Used in Rochester, New York

"Parcels of land which the city has obtained possession of by reason of foreclosure for taxes will be sold on a contingency basis to builders with priorities for $200 per lot. Under the plan a builder secures a priority to build. He then makes a contract with the City Administration which in effect gives him an option on the land and requires him to have construction under way by the end of this year. Just as soon as the first loan is made, the city then gives title to the land and receives $200 per lot. No construction is permitted on lots smaller than 50 ft. wide. At first the builders were a bit skeptical of building within the city and had in mind building in the surrounding towns. However, they have realized that with construction costs up, it is advantageous to them to secure the land with all improvements paid for $200 per lot. In this area, the permission has been given by Federal authorities for the erection of 450 homes. Already 350 have been contracted for to be built on city-owned real estate."

Research

New methods of construction
- Purdue Housing Foundation
- Steel Lumber
- Prefabrication

New comforts and convenience
- Climate control
- Panel Heating
- Moisture — odor and greasy vapor control
- Solar Homes

Servel All-Year Gas Air Conditioning Unit

At two recent meetings John K. Knighton, Sales Manager of the Air-Conditioning Division of Servel, explained to the building fraternity of Seattle the marvels of the Servel Year-Round Gas Air Conditioning Unit.

Both meetings were held in the Home Service Auditorium of the Seattle Gas Company. Forty-four members of the Washington State Chapter of the American Institute of Architects, and members of the American Society of Heating and Ventilating Engineers were entertained at a luncheon, and fifty-one members of the Seattle Master Builders, and of the Banking fraternity were guests at a dinner meeting.

Public Service Co. of Indiana Files Petition on Disposition of Gas and Water Properties

WITH the filing of petitions with the Public Service Commission of Indiana recently, President Robert A. Gallagher, of Public Service Company of Indiana, Inc., announced a program designed to improve operating conditions and institute economies beneficial to the Company and some 325,000 utility customers in 70 Indiana counties.

The program must be submitted to the Securities and Exchange Commission for its approval and, in part, to stockholders of the Company.

Under the program, the Company plans to refund its present $59,314,500 first mortgage bonds, and its $14,818,590 of preferred stock, besides prepaying $7,750,000 of serial notes. It would do this refinancing chiefly by means of a new $48,000,000 mortgage bond issue, the issuance of $13,000,000 in new notes, and the sale of $15,000,000 of new preferred stock. This move, Mr. Gallagher explained, would save Public Service about $495,000 a year in interest charges, on present security rates, and before payment of Federal income taxes. With operating costs and taxes continuing to increase, said Mr. Gallagher, it is important to take advantage of prevailing lower interest and dividend rates.

"The program includes the first step in the disposition of the Company's gas and water properties," Mr. Gallagher said. "This would make Public Service Company a strictly electric company. Its electric revenues now exceed 86% of the total revenue.

"Subject to commission approvals, the gas and water properties are to be sold to a new company to be organized. This new company would be financed by the sale of its Common capital stock to Public Service, and by the placing of a $6,000,000 mortgage on the gas and water utility properties, which have a total value in excess of $14,500,000.

"The new company would be placed under trained and experienced personnel drawn from Public Service Company in the main. Employe programs, such as insurance and retirement plans now in force with Public Service Company, would be adopted by the new company.

"The decision to separate the gas and water utilities is made after extended studies. The electric and gas utilities are competitive and to develop each one to its fullest advantage they should be separated. The operation and construction of gas and water utilities have much in common and they should be operated together. The management believes separation is in the public interest.

"This change is in keeping with policy expressed by the Securities and Exchange Commission in proceedings under the Holding Company Act. The Company is not at present under any order from the Securities and Exchange Commission to make a separation, but during proceedings in 1941 regarding the consolidation which resulted in the formation of the present Public Service Company of Indiana, Inc., the staff requested that consideration be given to the ultimate separation and disposition of the gas and water utilities."

Public Service Company serves 622 municipalities with electric service, 42 with gas service and 19 with water service.

The cities and towns in which the company now operates electric, gas and water utilities are—

Aurora, Clarksville, Claysburg, Franklin, Jeffersonville, New Albany, Noblesville, Shelbyville and Sheridan.

Cities and towns in which the company now operates both electric and gas utilities include—

Atlanta, Attica, Bedford, Bloomington, Cicero, Cloverdale, Columbus, Greencastle, Greensburg, Huntington, Lafayette, Liberty, Martinsville, Mitchell, New Castle, North Manchester, Rochester, Seymour, Ulen, and West Lafayette.

Cities and towns in which the company operates both electric and water utilities are—

Bloomfield, Bourbon, Brownstown, French Lick, Greenwood, Spencer, Wabash, West Baden and Worthington.

In Crawfordsville, both gas and water utilities are now operated by the Company. Cities and towns in which only the gas utility is operated are—

Edinburg, Frankfort, Lebanon, Linden, Tipton and Williamsport.

Cities in which only electric service is supplied, and which would not be affected by the proposed separation of operations, include Terre Haute, Clinton, Sullivan, Vincennes, Bicknell, Princeton, Kokomo, Petersburg and Oakland City.

W. H. Shultz Rejoins Staff of Hill, Hubbell & Co.

Wayne H. Schultz has returned to the staff of Hill, Hubbell & Company Division of General Paint Corp., Cleveland, Ohio, as Field Engineer and Eastern Representative after a leave of absence during the emergency. Mr. Schultz brings with him years of technical and practical experience in the coating-and-wrapping of steel pipe for oil, gas and other industrial uses, as well as the coating, wrapping-and-lining of steel pipe for water works and sewage purposes. His many friends welcome him back to his active representation in the steel pipe protection field.

CONNELLY IRON SPONGE

High in efficiency . . . low in cost. In hundreds of plants throughout the country, Connelly Iron Sponge has proven itself . . the finest purification material on the market. Not only does it lower your purifying cost but its high activity and capacity tends to reduce distribution and service complaints because of the cleaner gas which ultimately lowers operating and maintenance costs

If you have a problem in gas purification, Connelly's 68 years of experience is at your service. Our engineers can help you . . . there is no obligation on your part.

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REGULATORS

Sizes 1/4" up
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A. G. A. Testing
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Book Reviews

The Chemical Formulary, Volume VII, edited by H. Bennett (F.A.I.C.). Chemical Publishing Co., Inc., 234 King Street, Brooklyn, N. Y. 474 pages. Price $6.00.

This latest volume contains an entire new series of formulae not appearing in previous volumes. The many hundreds of tested formulae cover a wide variety of industries. Theory is not discussed. The information given is intended for practical use in the manufacture of marketable products or in the operation or maintenance of a plant.

The book is divided into the following sections: *I. Introduction. II. Adhesives. III. Flavors and Beverages. IV. Cosmetics and Drugs. V. Emulsions and Dispersions. VI. Farm and Garden Specialties. VII. Food. VIII. Inks and Marking Substances. IX. Leather, Skins, Furs. X. Lubricants, Oils, Fats. XI. Materials of Construction. XII. Metals and Alloys. XIII. Paints, Enamels, Varnishes, Lacquers. XIV. Paper. XV. Photography. XVI. Polishes. XVII. Pyrotechnics and Explosives. XVIII. Rubber, Resins, Plastics, Waxes. XIX. Soaps, Cleaners. XX. Textiles, Fibres. XXI Miscellaneous.*

The following three books were published in February by National Foremen's Institute Inc., Deep River, Conn.

How to Handle Labor Grievances by Dr. John A. Lapp. Bound in buckram, 294 pages, 5½ x 8 inches, $4.00 f.o.b. shipping point.

Dr. Lapp has brought within the covers of one convenient manual a practical treatment of the problem based on actual experience and the review of hundreds of cases. The scope of the Manual is indicated by the titles of the five parts into which the manual is divided. An appendix contains twenty-two grievance forms used by leading American corporations.

Part I—Background and History of Grievance Procedures.

Part II—Grievances and How To Deal with Them.

Part III—Outline of Grievance Procedures.

Part IV—Grievance Procedures in Selected Industries.

Part V—Problems of Grievance Procedures.

Disagreements, disputes and grievances, between employers and employees in industry and commerce are endless in variety. All too often careless treatment of them results in serious labor disputes later. Yet in most cases either a solution to the grievance is already available, or a practical method for arriving at a solution is ready to apply.

The Industrial Housekeeping Manual by R. F. Vincent. Cloth bound, decorated cover, 116 pages, fully indexed, $2.50 F.O.B. shipping point.

The Manual condenses to twelve chapters the information required by supervisors of cleaning operations in plants and offices. Carefully organized, fully indexed, each chapter covers fully its topic.

1. The Job of Housekeeping. 2. The Importance of Work Methods. 3. Safety Pays. 4. Floor Surfaces. 5. Cleaning Sanitary Fixtures and Lockers. 6. Common Sense About Soaps. 7. Selection, Use and Care of Cleaning Equipment. 8. Functions and Duties of Foremen and Crew Members. 9. Working Schedules. 10. Vermin Extermination. 11. Record Keeping. 12. Conclusion — True Cleanliness.

Conference Leader Training by Edward S. Maclin and Paul S. McHenry. 5½ x 8, 80 pages, cloth bound, decorated cover, $2.50 f.o.b. shipping point.

The titles of its nine chapters are as follows: 1—How to use this Manual; 2—The Conference as a Method of Instruction; 3—The Conference Leader and His Job; 4—Devices Used by Conference Leader; 5—Training Conference Leaders; 6—The Introductory Conference; 7—Preparing Conference Outline; 8—Practice Conferences; 9—Setting Up a Conference in Your Own Plant or Department.

Mr. Edward S. Maclin is president of West Virginia Institute of Technology. His co-author, Paul S. McHenry, is at present Chief of Civilian Training for the War Department, Middle Atlantic Division of Engineering.

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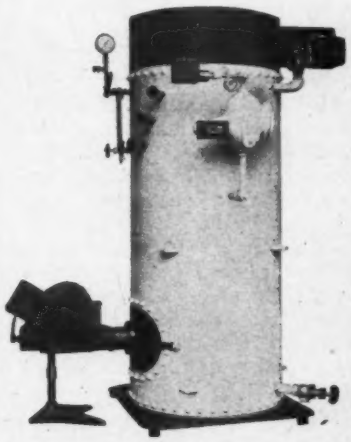
GAS — OIL BOILER
3 HP to 35 HP.



Burns natural gas or regular furnace oils with equal efficiency using same burner.

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Cedar Rapids, Iowa

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INDUSTRIAL FURNACES

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GAS PLANT EQUIPMENT
UGI REFINERY GAS REFORMING PROCESS
UGI NATURAL GAS REFORMING PROCESS
UGI HEAVY OIL PROCESS
GAS DISTRIBUTION
PIPE LINE CONSTRUCTION
THE U.G.I. CONTRACTING COMPANY
A DIVISION OF
UNITED ENGINEERS & CONSTRUCTORS INC
NEW YORK PHILADELPHIA CHICAGO
MAXIMUM RETURN TO CLIENT PER DOLLAR EXPENDED

News of the Gas Industry

AGA Committees

Sales Promotion Committee of American Gas Association

J. French Robinson, President of the American Gas Association, has announced the appointment of the Promotion Committee to direct sales promotion activities under the Association's expanded program of research, advertising and general promotion.

D. A. Hulcy, President of the Lone Star Gas Company, Dallas, Texas, was appointed chairman of the committee which is comprised of prominent gas company executives and members of the administrative committees of the American Gas Association. Members at large are: Joseph N. Greene, President, Alabama Gas Co.; W. M. Jacobs, General Sales Manager, Southern California Gas Co.; Dean H. Mitchell, President, Northern Indiana Public Service Co.; Irving K. Peck, President, Binghamton Gas Works; Col. Hudson W. Reed, President, Philadelphia Gas Works Co.; R. J. Rutherford, Vice President, Worcester Gas Light Co.; F. C. Smith, President, Houston Natural Gas Corp.; Henry P. J. Steinmetz, Vice Pres. in Charge of Sales, Public Service Elec. & Gas Co.; Everett J. Boothby (Chairman Manufactured Gas Department) Washington Gas Light Co.; P. T. Dashiall (Chairman Gas Production Research Committee) Philadelphia Gas Works; R. H. Hargrove (Chairman Natural Gas Department) United Gas Pipe Line Co.; Edward P. Noppel (Chairman Coordinating Committee on Research) Ebasco Services, Inc.; Charles A. Tattersall (Chairman Publicity Committee) Niagara Hudson Power Corp.; John H. Warden (Chairman Residential Gas Section) Oklahoma Natural Gas Co.; H. Carl Wolf (Chairman Committee on National Advtg.) Atlanta Gas Light Co.; Harry K. Wrench (Chairman Industrial & Commercial Gas Section) Minneapolis Gas Light Co.

At its first meeting the Promotion Committee discussed the general program of activities to be undertaken and approved the financing of two promotional items to be produced immediately.

Gas Summer Air Conditioning Report

John deB. Shepard, Chairman of the Joint Committee on Gas Summer Air Conditioning of the Industrial and Commercial Gas Section and the Residential Gas Section has announced the publication of the Committee's report—Technical Advances in Gas Summer Air Conditioning. The Committee has carefully analyzed the possibilities of gas summer air conditioning which will be the greatest direct aid to the promotion of gas utilization in his field. The report is covered in seven chapters beginning with a review of postwar possibilities of gas summer air conditioning by Mr. Shepard.

The chapter setting forth the report of the Technical Advisory Subcommittee by its chairman, G. Elmer May of New Orleans Public Service, Inc., discusses technical air conditioning problems at the present time and points the way for future research needed to supply the gas air conditioning engineer with sufficient data to install systems which will provide maximum customer satisfaction.

W. F. Friend, Mechanical Engineer, Ebasco Services, Incorporated, brings gas air conditioning up-to-date with field experience on gas-operated residential and small commercial installations illustrated with tables on this phase. Following chapters give cost tables on the different types of equipment tested under various conditions.

Gas Air Conditioning for Industrial Processing is covered thoroughly in a chapter by Harold S. Birkett, The Brooklyn Union Gas Co., Coordinator of Industrial Air Conditioning Data of the Joint Committee. Typical industrial systems are illustrated together with typical applications and the supporting data arrived at as a result of the tests.

Refrigerants and Absorbents comprise the final chapter by Dr. William R. Hainsworth, Vice-President, Servel Incorporated.

This report will serve as a guide for company activities in the field of Gas Summer Air Conditioning for Industrial, Commercial, and Residential gas installations.

F. E. Vandaveer Joins East Ohio Gas Company

On May 31, Dr. F. E. Vandaveer, Manager, Testing and Inspection Department, of the American Gas Association Testing Laboratories, resigned to join the staff of The East Ohio Gas Company. In his new affiliation, Dr. Vandaveer will assume responsibilities formerly handled by the late Charles F. Turner, Chief Chemist of this company, with headquarters in Cleveland. It is expected that he will continue to take a prominent part in Association activities through various committee assignments.

Associated with the Laboratories for the past 20 years, Dr. Vandaveer is widely known throughout the gas industry. Next to R. M. Conner, he was the Laboratories oldest employee in time of service, joining the staff shortly after their establishment in 1925. At one time or another he headed every department of the Laboratories, including testing, research and war work. From 1933 to 1937 he was located in Los Angeles in charge of the West Coast Branch. During his long period of service he directed publication of many gas research bulletins and was the author of numerous technical papers, articles and reports on various subjects connected with the utilization of gas.

F. E. Vandaveer

Dr. Vandaveer's entire career has been in the gas industry. Specializing in gas fuel even during his undergraduate days, he studied at the University of Illinois under the direction of the late Prof. S. W. Parr, holding a fellowship sponsored by the former Illinois Gas Association. He received his B.S. degree in 1922 and his M.S. one year later. In 1925 he was awarded the degree of Doctor of Philosophy in Industrial Chemistry. Before joining the Laboratories he worked for several summers as a cadet engineer for The Peoples Gas Light and Coke Company in Chicago, under the supervision of R. B. Harper.

Appliance testing activities previously in charge of Dr. Vandaveer will be supervised by K. H. Flint. He has been with the Laboratories for more than 19 years. A graduate of Amherst College, Mr. Flint also holds the degree of M.S. in chemical engineering awarded by the Massachusetts Institute of Technology.

V. J. Evans Joins the Wilcolator Co.

V. J. Evans has been appointed Sales Engineer of The Wilcolator Company, Elizabeth, New Jersey.

Mr. Evans is a graduate of Purdue University, School of Mechanical Engineering, and has been associated with the gas and electric appliance industry for about twenty years. His previous experience covers all phases of design, testing, and merchandising of gas and electric ranges and appliances.

Survey of the New York Market Presented in Graphic Form with Analysis of Industries and Consumer Buying Power

Consolidated Edison Company of New York, Inc., has released its comprehensive study of the economic life and the living and buying habits of New Yorkers in the four major boroughs of the city—Manhattan, Bronx, Brooklyn and Queens. Entitled "Survey of the New York City Market," the book contains 124 pages and has 63 charts, 83 tables, and 87 maps.

Copies of the book were shown for the first time at a luncheon on June 20th at the Waldorf-Astoria, which was attended by fifty representatives of newspapers and business and trade periodicals.

The Consolidated Edison Company prepared the market survey to help every business with a product to sell or a service to render in New York City. It is for the use of department stores and those dealers merchandising electric and gas appliances, as well as retail stores, chain stores, banks, real estate businesses, insurance companies, manufacturers, newspapers, advertising agencies, and utilities. It can be used as a foundation for market analysis to determine the location and degree of buying power, outline sales territories, set sales quotas, check sales efforts, allocate advertising expenditures, and to locate stores or other types of business.

Much of the information in the survey has been compiled in connection with the company's studies of the make-up and development of the city for use in planning future requirements of electricity, gas and steam.

The data, organized and presented in graphic form by Sherman M. Hall of the Company's Economic Research Bureau, were obtained from various sources including the U. S. Census of 1940 and local agencies. The company made its own survey of the location and number of six different types of retail stores. In most cases the data are presented by "census tracts," which is the unit used by the Census Bureau. There are 3,343 census tracts in the city.

The market survey is divided into five parts, the first of which covers New York City as a whole, while the other four sections deal with the Boroughs of Manhattan, Bronx, Brooklyn and Queens separately.

The survey shows the distribution of New York City's manufacturing by industries, and indicates that New York does 7.6 per cent of the Nation's retail business and 23.4 per cent of the wholesale business. With 6.7 per cent of the country's population, New York does 15.5 per cent of the service business, which includes laundries, shoe repair, automotive repair, advertising agencies, etc.

Particular emphasis in the survey has been placed on housing because the type of dwelling in which a family lives determines many of its most important expenditures. The dwelling not only gives an indication of family income, but it also shows what space is available for equipment and appliances.

Four separate colored maps are issued with the survey, giving the average monthly rent for each of the 4,000 city blocks in the four boroughs. Rent paid is claimed to be the best index of purchasing power that can be obtained.

In a brief foreword to the survey, Ralph H. Tapscott, president of Consolidated Edison Company of New York, Inc., writes: "A unique marketing problem confronts the man who wants to do business here. If he wants best results, a detailed study is imperative. In addition, war has dislocated many distribution outlets. Sales organizations may have to be rebuilt. New products will require new approaches."

Clarence L. Law, Vice President, stated at the presentation:

"The material put together in this market survey was in large part compiled by our company, in connection with our various studies of the make-up and development of the city, as a help in our planning for the future requirements of electricity, gas and steam. We have found from long experience that in order to plan intelligently we must be intimately familiar with the people of the territory, with their habits, with their movements from one area to another, and so on. An experiment on a much smaller scale with a Brooklyn market survey back in 1936 convinced us that this information, organized and made available on a city-wide basis, would be of great value to people doing business in New York."

PER CENT OF DWELLING UNITS WITH MECHANICAL REFRIGERATORS
High-percentage tracts predominate in the southern half of the Borough. This is particularly true in the south-central area and the Bay Ridge district.
Low-percentage tracts are found for the most part in the northern and eastern sections.
Values for Tracts 25, 27, 29, 31, 185, and 305, 307, have been adjusted to account for Fort Greene, Wallabout, and Kingsborough Houses which were completed after the 1940 Census was taken.
Legend
CENSUS TRACT NUMBER
PER CENT
80% TO 100%
60% TO 79%
40% TO 59%
20% TO 39%
UNDER 20%

This is one of the 63 charts in the survey. It shows Brooklyn Borough divided into "Census tracts". In each tract the percentage of dwelling units (houses or apartments) having mechanical refrigeration (gas or electric) is given. Another of the charts, identical in outline, shows the average monthly rent of dwelling units in each tract. Each borough has been charted in this manner, using colors to indicate classifications.

Savannah-St. Augustine Gas Co. Elect Officers

Harold R. Snedeker, Fred L. Linzer, Walton K. Nussbaum and William R. Peterson were elected vice presidents of the Savannah-St. Augustine Gas Company at the quarterly meeting of the board of directors.

Other promotions included those of James B. Earnest, who was made sales manager, and J. Fred Slayton, who was promoted to assistant treasurer.

Election of the new vice presidents will fill places left vacant by the resignation of three former vice presidents, Robert F. Daugherty of Savannah, and M. S. Reeve and M. K. Patterson of New York.

Mr. Snedeker, who has been with the Gas Company for over 22 years, was promoted to his new position from that of treasurer.

Mr. Linzer, who has been with the Gas Company since May, 1917, started as a fitter and after two years was made superintendent of the distribution department. From there he was promoted to manager of public relations, and then to vice president.

Mr. Nussbaum, a native Savannahian, who served fifteen years with the Savannah Gas Company, was promoted to vice president from the position as sales manager.

Another new vice president, Mr. Peterson, came to the Savannah Gas Company three years ago as plant superintendent. Prior to that time he had been with the Minneapolis Gas Light Company.

Mr. Earnest comes to his new position as sales manager from that of manager of appliance purchases and head of floor sales. He served 17 years with the Savannah Gas Company prior to its purchase by the Savannah-St. Augustine Gas Company.

Mr. Slayton joined the organization several months ago after being affiliated with the Georgia State Savings and Loan Company.

American Stove to Help Retailers Sell Complete Gas Kitchens

American Stove Company has announced to its dealers and utility customers a comprehensive program of tie-in advertising to help them reap maximum benefits from the "New Freedom" Gas Kitchen Promotion of the American Gas Association and from its own national advertising. One of the first gas appliance manufacturers to tie in its national advertising with the Association's campaign, American Stove outlines its helps for dealers and utilities in the current issue of its *Magic Chef* Magazine.

This tie-in program consists of newspaper, direct mail and display advertising. Mats or electrotypes of a wide selection of newspaper ads will be supplied dealers and utilities for local use over their own names. These newspaper ads spotlight Magic Chef Ranges in "New Freedom" Gas Kitchens of the type that will be available when various manufacturers resume production.

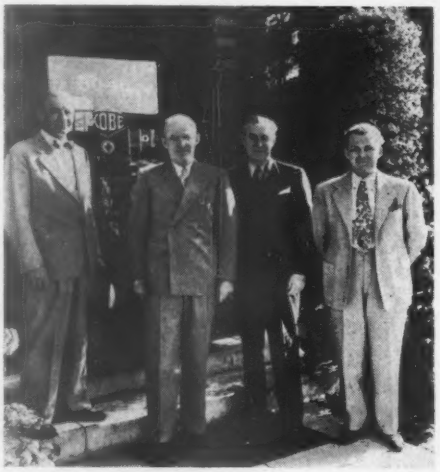
For direct mail use American Stove has prepared for its dealers, a broadside which effectively gets the story across to prospective customers.

For display—in windows and on sales floors—the company has prepared enlargements of "New Freedom" Gas Kitchens which will be supplied dealers in sets of four. Blow-ups of American Stove's national advertisements will also be furnished for such use.

Dresser Executives Meet at Huntington Park, Calif.

Three of Dresser Industries' thirteen companies were represented in this recent meeting at Huntington Park, Calif., of J. B. O'Connor, executive vice president of Dresser, with top executives of Pacific Pumps, Inc., International Derrick & Equipment Co., and Kobe, Inc.

Left to right in the photo they are: L. R. Wells, president of International Derrick & Equipment Co. of Calif., C. J. Coberly, president of Kobe, Inc., O'Connor, and E. J. Weis, vice president of Pacific Pumps, Inc.



"The program of the oil industry," Mr. O'Connor said, "is the foundation of operations in a number of the Dresser companies. No industry is having greater demands made upon it by the war. Not only is today's mechanized type of fighting vitally dependent on the availability of petroleum products in almost endless quantities—tomorrow's world will be equally in need of the products and by-products of this all-important natural resource.

"In the production of oil for war, as well as for the peace to follow, much new equipment will be needed. In the transportation of oil there is a definite indication of expanding activity. In the refining of oil, methods will be changed and new equipment will also be needed.

"To meet these postwar needs of the petroleum industry, these California operating companies of Dresser Industries must be prepared to expand not only their present plant facilities but their research activities as well. Both today are receiving the most serious consideration."

Miss Dowler Wins A.G.A. Water Heating Award

Miss Flora G. Dowler, home service supervisor of the Pittsburgh Group of natural gas companies affiliated with the Columbia Gas & Electric Corp., has been awarded the first prize of $150 in war bonds for her entry in the recent contest sponsored by the Water Heating Committee of the American Gas Association.

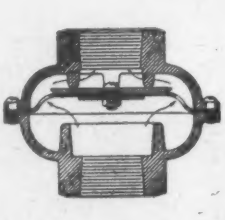
Flora G. Dowler

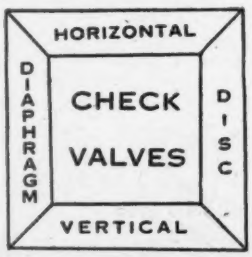
Accepting the committee's suggestion that a specific idea was desired regarding how home service could promote adequate gas water heating service, Miss Dowler conceived a chart and a standardized home service lecture. Both concern the effectiveness of hot water at various temperatures for a variety of uses in home, store and shop. Her contribution, designed primarily for home service classes of food workers and parent-teacher groups, was one of more than 100 entries received.

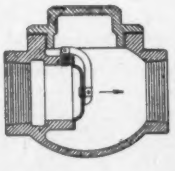
Miss Dowler came to Pittsburgh in 1940 and since that time has supervised the home service activities of the Pittsburgh Group which includes the Manufacturers Light & Heat Co., Cumberland & Allegheny Gas Co., Natural Gas Co. of West Virginia and the Gettysburg Gas Corp.

She achieved national recognition by winning the 1943 McCall Gas Utility Home Service contest. Last year, Miss Dowler was one of the winners in a contest conducted for home service personnel by the Ruud Mfg. Co., of Pittsburgh.

Pressure Controls for Gas and Air







NORWALK VALVE COMPANY

35 Railroad Ave. South Norwalk, Conn.

Iowa State Awards Degree to M. F. Beecher of Norton Co.

Milton F. Beecher, director of research for the Norton Company, Worcester, Mass., has been awarded an honorary degree of doctor of engineering by Iowa State College. The General Alumni Association and Iowa State College, also honored him by the presentation of a Merit Award at Alumni Day.

Dr. M. F. Beecher

Mr. Beecher was graduated from Iowa State College in 1910. Five years later, he was granted a professional degree of ceramic engineer by the same institution.

Following his stay at Iowa State College, he became connected with Norton Company in May, 1915, where he has been director of research for many years, There, he amplified the company's investigational and development activities, improved coordination with manufacturing groups and exercised leadership in national ideas as to possibilities of ceramics in new channels of use.

He is author of some 9 significant publications in the field of ceramics and is the owner, in several cases with partners, of 19 patents. These lie in such classifications as lightweight refractory brick; translucid anti-slipping tile; anti-slipping vitrified tile; safety tread tile; safety tread ceramic tile; tunnel kilns; methods of manufacturing laminated ceramic articles; and a method of bonding such products as alumina, magnesia, carbide grains, silicate granules and abrasives with ceramic materials.

In 1944, he was elected president of the Institute of Ceramic Engineers and has been affiliated most of the time with its refractories division.

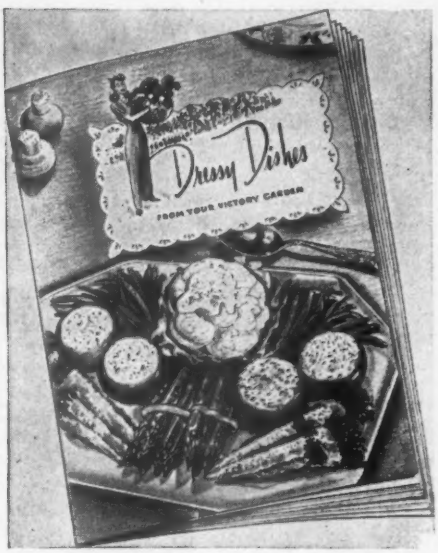
Chrysler Corp. Appoints Shirley Director of Heating Sales

William B. Shirley has been appointed Director of Heating Sales for Airtemp Division, Chrysler Corporation and will make his headquarters in Dayton, O.

For 20 years, Shirley has been connected with the Lennox Furnace Company, Marshalltown, Iowa. Starting as a field man with Lennox, he advanced to district manager, and after serving in various sections of the country, became General Sales Manager of the company. In 1940 he was chosen to organize the new Columbus manufacturing plant of Lennox and direct the sales activities of that division.

Recipe Book Issued by Estate Stove Co.

As a contribution to the Victory Garden campaign, The Estate Stove Company, Hamilton, Ohio, has produced a new type of recipe book, one which will help women plan attractive, satisfying meals, from vegetables.



The recipes were collected and tested in The Estate Stove Company's kitchen under the supervision of Miss Celia S. Bush, director of home service. The book is a colorful, eye-catching piece of printed matter—16 pages and cover, size 5½ x 8¼ inches. Titled *Dressy Dishes From Your Victory Garden,* the front cover shows a reproduction of an actual full-color photograph of a vegetable platter.

The book is divided into five sections—Breakfast Specials, Second-Helping Relishes, Salad Bowl Winners, Vegetable Main Dishes and Guess-Again Desserts. There is a page devoted to home canning, another page on home freezing and, of course, two pages of "commercials" on Estate Heatrola Ranges. The back cover shows a picture in four colors of a kitchen "dreamlined" by Estate.

An offer to send the book free to anyone who writes in for it has been included in the May issues of The Estate Stove Company's national advertising. Copies are also being sent to a list of home service directors of newspapers, magazines and utilities, as well as teachers of home economics of high schools and universities.

For dealer promotion, the company has prepared an attractive four-color window streamer and a special post-war range survey book. With this material, dealers can secure information from their customers which will be helpful in building a post-war prospect list, this information being received in exchange for a copy of the book.

ESTATE BUILDS NUCLEUS POST-WAR SALES FORCE

The Estate Stove Company, Hamilton, Ohio, recently held a three-day refresher sales course for district sales managers who have returned to the company after a leave of absence of several years. These five men will form the nucleus of the post-war Estate sales force.

Pictured above during the explanation of post-war Estate Heatrola Range sketch, are: (left to right) Frederic A. Deininger, district sales manager; Central Atlantic Division; Walter S. Rowe, merchandising manager; Cecil M. Dunn, assistant sales manager; J. Noble Edmondson, district sales manager, Southern Division; S. C. Bernhardt, vice-president in charge of sales; John W. Holzman, district sales manager, Central Division; D. P. Eggenberger, district sales manager, North Atlantic Division; L. W. Brate, district sales manager, Western Division; R. C. Thomas, manager, Estate Distributing Company, Cincinnati.

P.U.A.A. Holds Meeting

E. N. Pope of the Carolina Power & Light Company, Raleigh, N. C., was elected president of the Public Utilities Advertising Association at a two-day business session of the organization held in the Edgewater Beach Hotel, Chicago, June 5-6. He succeeds Russell I. Seymour of the Kansas City Power & Light Company.

Other P.U.A.A. officers for the coming year are James V. MacDonald, Boston Edison Company, first vice-president; Charles J. Allen, Connecticut Light & Power Company, Waterbury, Conn., second vice-president; Robert Plowe, Commonwealth Edison Company, Chicago, third vice-president; Waldo M. Wright, Amarillo Gas Company, Amarillo, Tex., secretary, and Dale Remington, Wisconsin Public Service Corporation, Green Bay, Wis., treasurer.

New members of the board of directors are Mr. Seymour, Kenneth Haines, Northern Indiana Public Service Company, Hammond, Ind.; Robert Gros, Pacific Gas & Electric Company, San Francisco, Cal., and Henry Grant, Houston Light and Power Company, Houston, Tex.

Winners of the 1945 P.U.A.A. "better copy" awards were announced at the meeting by Mr. Plowe as chairman of the contest committee. Entries were judged this year on a nationwide, rather than regional basis. There were 12 separate classifications, divided, except in a few cases, into four distinct groups, based on the size of the utility, as follows:

Group A—Utilities with less than 30,000 customers.

Group B—Utilities with 30,000 or more, but less than 100,000 customers.

Group C—Utilities with 100,000 or more, but less than 400,000 customers.

Group D—Utilities with 400,000 or more customers.

WINNERS OF
1945 BETTER COPY CONTEST

Classification No. 1—Series of Newspaper Advertisements.

Group A. Salem Gas Light Company.
Group B. The Potomac Edison Company.
Group C. Boston Consolidated Gas Company.
Group D. Commonwealth Edison Company.

Classification No. 2—Public Relations Advertisement.

Group A. Central Ohio Light & Power Company.
Group B. Louisiana Power & Light Company.
Group C. Northern Indiana Public Service Company.
Group D. Philadelphia Electric Company.

Classification No. 3—War Effort Advertisement.

Group A. Amarillo Gas Company.
Group B. The Montana Power Company.
Group C. Virginia Electric and Power Company.
Group D. The Brooklyn Union Gas Company.

Classification No. 4—Transportation Advertisement.

British Columbia Electric Railway Company, Ltd.

Classification No. 5—Employe Publication.

Group B. Mississippi Power & Light Company.
Group C. The Cincinnati Gas & Electric Company.
Group D. Consumers Power Company.

Classification No. 6—Periodical for Residential Customers.

Group A. Central Ohio Light & Power Company.
Group B. The Potomac Edison Company.
Group C. Northern Indiana Public Service Company.
Group D. The Brooklyn Union Gas Company.

Classification No. 7—Special Literature.

Group A. Central Ohio Light & Power Company.
Group B. Central Hudson Gas & Electric Corporation.
Group C. Duquesne Light Company.
Group D. Northern States Power Company.

Classification No. 8—Display Advertising.

Group B. Wisconsin Public Service Corporation.
Group C. The United Illuminating Company.
Group D. Southern California Gas Company and Southern Counties Gas Company, joint award.

Classification No. 9—Radio Advertising.

Entertainment Program: Puget Sound Power & Light Company.
Educational Program. Oklahoma Natural Gas Company.

Classification No. 10—Annual Report to Stockholders.

Group B. Wisconsin Power & Light Company.
Group C. The Dayton Power and Light Company.
Group D. Consolidated Edison Company of New York, Inc.

Classification No. 11—Annual Report to Employes.

Group C. The Dayton Power and Light Company.

Classification No. 12—Outdoor Advertising.

Group B. The Montana Power Company.
Group C. Utah Power & Light Company.
Group D. The Peoples Gas Light & Coke Company.

Bryant Heater Co. Appoints C. F. Cushing and J. M. Crawford

The appointments of C. F. Cushing as distribution manager, and of James N. Crawford as sales manager of the Gas Heating Division, Bryant Heater Company, Cleveland, are announced by Lyle C. Harvey, president.

James N. Crawford C. F. Cushing

Mr. Crawford is a native of Cleveland and a graduate of Case School of Applied Science, where he became a member of Phi Kappa Psi social fraternity, and of Tau Beta Pi, an honorary scholastic society. He holds a B.S. degree in mechanical engineering. A member of the staff of the American Gas Association Testing Laboratory following his graduation from Case, Crawford has been associated with the Bryant Heater Company for the past 12 years.

Mr. Cushing was born in Towson, Md., and attended The Johns Hopkins University, from which he was graduated with honors in mechanical engineering. He is a member of Alpha Delta Phi, and is active in the American Society of Heating and Ventilating Engineers, the Advertising Club and the Sales Executives Club of Cleveland. Formerly associated with the Frigidaire Corporation, Mr. Cushing has been a member of the Bryant Heater Company staff since 1935.

Cutler-Hammer, Inc. Organizes for the Post War Period

At the Annual Meeting of the Board of Directors held June 15 the management organization was broadened by the election of the following officers:

F. R. Bacon, Chairman of the Board; H. F. Vogt, Chairman of the Executive Committee; G. S. Crane, President; H. F. Vogt, Vice President and Treasurer; J. C. Wilson, Vice President and Secretary.

The following additional officers were elected:

P. B. Harwood, Vice President in charge of Engineering; P. S. Jones, Vice President in charge of Sales; Philip Ryan, Vice President in charge of Manufacturing; E. W. Seeger, Vice President in charge of Development and Assistant Secretary; M. R. Fenno, Assistant Treasurer; J. C. Springer, Assistant Secretary.

Messrs. F. R. Bacon and G. S. Crane were elected as the other members of the Executive Committee.

America's Future Oil Supplies

Growing consumption of gasoline in flame throwers and fire bombs is one of the reasons why motor car operators will probably have to get along without a further increase in gasoline rations until Japan is defeated, Dr. Robert E. Wilson, chairman of the board of directors of Standard Oil Company (Indiana) told members of The American Society of Mechanical Engineers at the annual dinner of the Chicago Section on June 19th.

It is to be anticipated that tremendous quantities of gasoline will soon be flowing across the Pacific, though it will not be possible for the armed forces to use as much fuel as they required for both the European and Japanese wars, the speaker said. Because of the latter fact, there is little likelihood that military demands will increase to the point that any part of the recent increase will have to be taken away.

At present, he said, the American Oil industry is producing and refining over a million barrels per day more than it did in 1942. In the past the armed forces have taken all of the increase and another 700,000 barrels per day squeezed from the civilian economy.

It was only because the nation had a large scale petroleum industry, built up under the system of private enterprise, that such supplies could be furnished to the armed forces, Dr. Wilson pointed out. The importance of this factor in the winning of the European war was recognized in the most authoritative quarters when Field Marshall Karl Gerd von Rundstedt upon his capture gave as a prime reason for Germany's defeat the lack of oil and gasoline. America had it, Germany lacked enough.

Technology has played a large part in keeping up the supply of petroleum, he said. Where once 70 to 80 per cent of the oil was left in the ground, usually not more than 30 to 40 per cent remains today after the pumps have been pulled. Heavy oils are being converted into lighter and more valuable products. The day of burning fuel oil in direct price competition with coal is about over, he thought. Higher octane gasolines will lead to development of more efficient engines and cut down the amount of fuel they will need.

Despite all improvements in methods of finding and producing oil, the returns per unit of effort are diminishing, Dr. Wilson acknowledged. But the petroleum industry has no fear of actual exhaustion of its raw material, because oil can be made from natural gas, coal, and oil shale. Just over the horizon, he said, is the making of gasoline from natural gas by what is known as the Fischer Tropsch process. The cost will not be much greater than at present, and large quantities of gas are available despite the fact that much of the supply has been earmarked for public utility use.

From lignite and coal the Germans have been obtaining a large share of their gasoline. If and when we need to do so, we can follow suit in this country, said the speaker, at costs probably not more than five cents a gallon higher than at present. Abundant tar sands, mainly in Canada, and oil shales in the Western United States, are also sure sources of oil if needed. There is nothing in sight which could jeopardize our position as a "nation on wheels."

"The sound thing to do," he emphasized, "would be to keep enough oil coming in so that there will be no lack for transportation or industrial needs, but not so much as to prevent domestic crude prices from being high enough to keep our geologists and drillers hunting for oil and our chemical engineers interested in development of substitute sources of oil. As this war has abundantly proved, only a strong and vigorous domestic industry can be relied upon in a real war emergency."

Bristol Appoints C. E. Mason Technical Director

C. E. Mason has been appointed Technical Director of the Bristol Company, Waterbury, Conn., according to an announcement made by L. G. Bean, Vice President in Charge of Engineering and Sales.

Mr. Mason was graduated from Marietta College in 1917. After service during World War I as a pursuit pilot in the U. S. Army Air Service, he became interested in engineering problems in the petroleum industry and practiced consulting engineering in Tulsa until 1925, which led to his specializing in automatic control problems. From 1925 until 1941 he was associated with the Foxboro Company and for several years of that period he was Director of Control Research. From 1940 until joining the Bristol Company he was Director of Engineering of the Mason-Neilon Regulator Company.

Gas Illumination Contributes in Paris Victory Celebration

Stanley H. Hobson, President of George D. Roper Corporation, recently received a "ring-side" letter from Colonel Wm. L. Plummer, formerly Roper District Manager in Atlanta. In describing the Paris V-E celebration, Col. Plummer says in part:

"That night in Paris is one that none of us will ever forget. There have never been such packed-in jams of delirious humanity. All of the prominent buildings, such as the Arc de Triomphe, Notre Dame and the like were floodlighted. The Arc de Triomphe, as has always been the custom on celebration days, was hung with huge flags. They turned on the street lighting for the first time as well, and the Champs Elysees, believe it or not, uses gas along its whole gorgeous sweep for night lighting. I thought this would interest you and might be of interest to a lot of our friends that the main thoroughfare of Paris on V-E night was aflame with Welsbach Burners.

"The celebrations continued for several days but now things are pretty much back to normal routine. Our work load here has increased and will stay that way, I believe, for a matter of months."

Empire Stove Co. Awarded Army-Navy "E" Pennant

The Army-Navy "E" Award Flag has been presented to Empire Stove Co., Belleville, Ill., by Col. Lowell A. Elliott, Deputy Chief, Chemical Warfare Service.

In making the presentation Colonel Elliott stated, "This award is being made specifically for Empire Stove Company's outstanding achievements in the design and manufacture of Airplane Smoke Tanks and for the rapidity with which they converted to the production of incendiary Bomb Cluster Adapters for use against Japan."

Colonel Elliott also related specific instances where the items manufactured by Empire Stove Company had been used to defeat the enemy by laying protective smoke screens to cover landing operations of our troops in the Pacific as well as on the beaches at Normandy during the invasion of Europe.

"JOURNAL" GAS FLOW COMPUTERS

High Pressure
RANGE:
Cu. Ft. of Gas Per Hour—100-10,000 M
Diameter of Pipe—Inches ¼-30
Difference in Absolute Pressure—Lbs. per sq. in., 1-500
Sum of Absolute Pressures—Lbs. per sq. in., 2000-20
Specific Gravity—1.5-.35
Length of Pipe—Feet 100-5000
Length of Pipe—Miles 1-250

Low Pressure
RANGE:
Cu. Ft. of Gas Per Hour—10 to 500 M
Pipe Diameter—¼" to 48" (including standard and actual weight up to 4")
Pressure Loss—Inches .01-10
Length of Pipe—Feet 30-30,000
Specific Gravity—1.5-.35
Constants—1400-1000

Made of durable celluloid, encased in a convenient leatherette cover with complete instructions. Actual size 6¼ x 7½

3.50 Each Postpaid

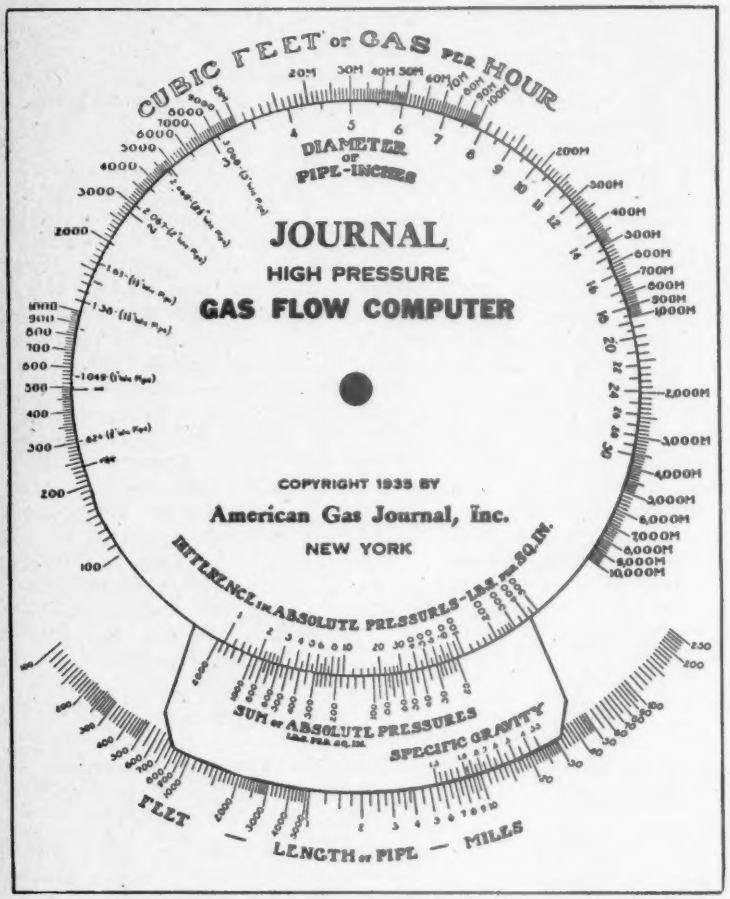
American Gas Journal
53 Park Place, New York 17

GPM IRON HYDROXIDE

The mark of
unerring dependability
in purification

GAS PURIFYING MATERIALS CO., INC.
3-15 26th Ave.
Long Island City 2, New York

"Journal" Gas Flow Computers



These Improved Gas Flow Computers are available in durable celluloid, encased in a convenient leatherette cover with complete instructions.

Actual Size 6¼ x 7½

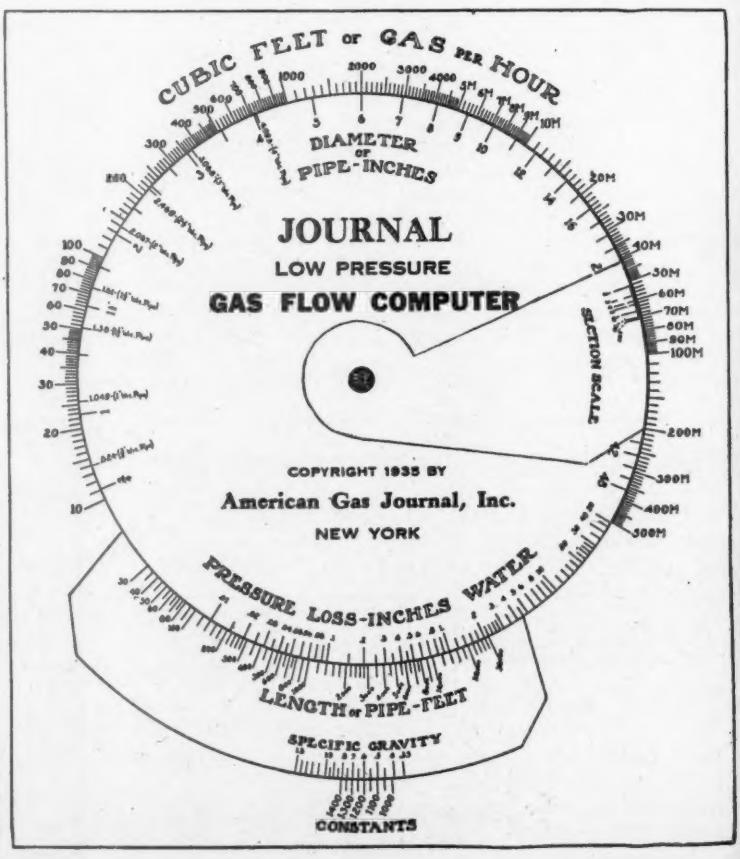
High Pressure Computer Range:

Cu. Ft. of Gas Per Hour—100-10,000 M
Diameter of Pipe Inches ¾-30
Difference in Absolute Pressure—Lbs. per sq. in. 1-500
Sum of Absolute Pressures—Lbs. per sq. in. 2000-20
Specific Gravity 1.5-.35
Length of Pipe—Feet 100-5000
Length of Pipe—Miles 1-250

Low Pressure Computer Range:

Cu. Ft. of Gas Per Hour—10 to 500 M
Pipe Diameter ¾" to 48" (including standard and actual weight up to 4")
Pressure Loss Inches .01-10.
Length of Pipe—Feet 30-30,000
Specific Gravity 1.5-.35
Constants 1400-1000

Price $3.50 Each, Postage Prepaid



AMERICAN GAS JOURNAL
53 Park Place, New York 7, N. Y.

Please enter our order for Computers as follows at $3.50 each, postage prepaid

HIGH Pressure Computer

LOW Pressure Computer

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INDEX TO ADVERTISERS

American Meter Co. 26-27
American Radiator & Standard Sanitary Corp. —
American Stove Co. ..... —
Assn. of Gas Appliance and Equipt. Mfrs. .... —
Barber Gas Burner Co., The 52
Besse, Osborn & Odell ..... —
Blaw-Knox Company ..... —
Bryant Heater Co. ..... —
Buell Engineering Co. ..... —
Cast Iron Pipe Research Assn., The 4-5
Clark Bros. Co. ..... —
Cleveland Gas Meter Co. 50
Cleveland Heater Co. ..... —
Cleveland Trencher Co. 45
Columbia Burner Co. 50
Connolly Iron Sponge & Governor Co. 52
Cooper-Bessemer Corporation 24
Crane Company 8
Cruse-Kemper Co. 33
Detroit-Michigan Stove Co. ..... —
Dresser Mfg. Div., Dresser Industries 6-7
Estate Stove Co. ..... —
S. F. Ferguson ..... —
Gas Machinery Co. 53
Gas Purifying Materials Co. 59
General Coal Co. ..... —
General Gas Light Co. ..... —
Harper-Wyman Co. 19-20
Lambert Meter Co., Inc. 43
Lattner Mfg. Co., P. M. 53
Lavino & Co., E. J. 40
Lincoln Electric Co. ..... —
Merco-Nordstrom Valve Co. 29-30
Metric Metal Works 26-27
Norton Company 35
Norwalk Valve Co. 56
Oxford Company, The 43
Payne Furnace & Supply Co. Division Dresser Industries 49
Pittsburgh Equitable Meter Co. ..... Front Cover
Reynolds Gas Regulator Co. 40
Robertshaw Thermostat Co. ..... —
Roper Corp., Geo. D. ..... —
Ruud Manufacturing Co. ..... —
Safety Gas Main Stopper Co. 61
Semet-Solvay Engineering Corp. 3
Servel, Inc. 22-23
Smith Corporation, A. O. 2, 10
Sprague Meter Co., ... Back Cover
Stacey Manufacturing Co. 47
Superior Meter Co. 42
Syntron Co. 34
United Engineers & Constructors, Inc. 53
Vulcan Proofing Co. ..... —
West Gas Improvement Co. ..... —
Whitehead Metal Products Co. ..... —

New Haven Gas Light Appoints Home Service Director

Appointment of Patricia A. Galligan as Home Service Director of the New Haven Gas Light Company is announced by P. J. Naschold, Sales Manager. She succeeds Cornelia Newton who has been a member of the organization for the past 14 years.

Patricia A. Galligan

Before coming to New Haven, Miss Galligan was associated with Swift & Company, Chicago, Ill. She is a graduate of Iowa State College with a B.S. degree in Home Economics.

Hutcheson and Coleman Promoted by Pittsburgh Group Co's.

W. L. Hutcheson has been advanced to sales manager and James E. Coleman has been appointed assistant sales manager of the Pittsburgh Group of natural gas companies of the Columbia Gas & Electric Corp.

These personnel changes were announced on June 1, by C. E. Bennett, president of the Manufacturers Light & Heat Co., Cumberland & Allegheny Gas Co., Gettysburg Gas Corp. and the Natural Gas Company of West Virginia.

Mr. Hutcheson, since 1934 the utilities' merchandise sales-manager, will now supervise domestic and industrial gas sales, merchandising programs, home service activities and utility advertising.

J. E. Coleman joined the Manufacturers Light & Heat Co. as an industrial engineer in 1937 and was located in Steubenville, Ohio, and Beaver Falls, Pa. Until he entered the Army in 1942, Mr. Coleman served the natural gas companies in the Pittsburgh Group in various industrial engineering capacities.

Mr. Hutcheson and Mr. Coleman will maintain headquarters in Pittsburgh.

Caloric Gas Stove Works Appoints George J. Ellis

Caloric Gas Stove Works has named George J. Ellis as divisional sales manager for the Pacific Coast. The announcement was made by Julius Klein, Caloric's General Sales Director.

Prior to his transfer from Philadelphia, effective June 1st, Mr. Ellis had been Eastern Divisional Sales Manager since June, 1941. For three years previously he had been Caloric's representative in southern California.

The Reliable Shut-Off for Street Mains

THE GOODMAN STOPPER

Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

Nearly a half century of service to the Gas Industry.

Safety Gas Main Stopper Co.
523 Atlantic Avenue. Brooklyn. New York

Chemical Utilization

(Continued from page 39)

the standpoint of the uses to which the products are put.....

Methanol

This discussion of strictly chemical uses of natural gas will be concluded by mention of another avenue of approach. It was pointed out above that synthetic ammonia is being made from hydrogen produced from natural gas by a process which involves the intermediate production of a mixture of hydrogen and carbon monoxide. Hydrogen and carbon monoxide can be used as the raw material for synthetic production of methanol as well as higher alcohols, and a large part of the methanol now produced is made from a mixture of hydrogen and carbon monoxide which is made, however, in water gas machines. It has already been suggested that when the demand for synthetic ammonia decreases, part of the synthetic ammonia capacity will be turned to the production of synthetic methanol since the plant requirements are in some ways very similar. It is therefore possible to look forward to competition within that portion of the synthetic methanol industry based on natural gas, with oxidation of natural gas being used to produce methanol directly in some plants, while in other plants natural gas will be used as raw material from which to produce a mixture of hydrogen and carbon monoxide from which methanol will be produced.

The attempt has been made to point out those ways in which natural gas is used in addition to its principal use as a fuel and source of energy. The greatest weight has been placed on those uses which take the greatest volumes of natural gas and other uses have been mentioned rather briefly. It has been pointed out that the present principal uses as a group will probably not consume as much natural gas in peace-time as they do at the war-time peak, that the minor uses will probably increase but cannot conceivably increase enough to become really important from the standpoint of natural gas consumption, and that chemical utilization by presently known processes cannot be considered as a means to reduce waste of natural gas, though further research may lead to a process applicable to gas which would otherwise be wasted. Finally, attention has been directed to the Fischer-Tropsch process which can be used to make motor fuel from natural gas and which therefore presents the possibility of a market for natural gas which is a fuel market, but which involves chemical processing, and which deserves careful study because it may develop into a major use for natural gas.

New National Oil and Gas Policy Approved

Approval by four of the major national oil and gas trade associations of the principles embodied in the "Supplement to the Preliminary Report on National Oil Policy" recently adopted by the Petroleum Industry War Council makes it evident that oil and gas interests are prepared to present a united front in their dealings with the Federal Government.

Within a few days after the PIWC had adopted the 13-point oil and gas policy statement (copies of which we mailed to Association members), the INGAA, the American Petroleum Institute and the American Gas Association each adopted, through their respective executive boards, resolutions specifically approving the policy. Also, the executive board of the Independent Petroleum Association adopted a resolution expressing approval of a similar policy.

As a result, it is now assured that oil and gas interests will find themselves in a stronger position when presentations are made before the Senate O'Mahoney Committee and before the Federal Power Commission.

Effects of F.P.C. Control*

If the present trend of recent Supreme Court decisions affecting the natural gas industry continues unchecked, the Federal Power Commission "will eventually find itself master of the field and arbiter of the price of all well-head sales of gas where eventual transportation in interstate commerce is involved," the Interstate Oil Compact Commission was warned by Carl I. Wheat, Washington attorney.

"I wish to state at the outset," Mr. Wheat asserted, "that, in my opinion, any practice on the part of the Federal Power Commission which consists merely in reducing rates for gas sold by a certain few pipe lines, through seizing upon the fact that they may enjoy lower than average production costs in the gas fields—a practice exemplified in the Canadian River Company case—cannot fail in the end to prove highly inimical to the principles of true conservation, cannot fail to hamper the states both as to conservation and as to their taxing powers, and cannot fail to harm the underlying interests of royalty holders and all other persons in the producing states who are interested in having natural gas produced and marketed at prices fair to all."

In discussing some of the variations of typical situations which might arise as a result of the decision in the Canadian River case, Mr. Wheat declared: "If the Commission should be able successfully to maintain an assertion of jurisdiction over all such sales (of gas at the conclusion of production and gathering), on the theory that they are in fact 'sales in interstate commerce,' and that the fixing of rates at the conclusion of production and gathering is not really a regulation of production and gathering operations, it is obvious that every producer of natural gas, whether it be dry gas or gas produced in association with oil, will face regulation of both rates and other phases of his business by federal authority under the Natural Gas Act, if he sells any of his gas to an interstate pipe line."

"The other alternative apparently involves a single simple principle—the recognition that natural gas is a commodity to which the laws of supply and demand naturally and inevitably attach a price. That price is not necessarily, or even primarily, governed by federal regulation of the rates of interstate pipelines. Science is rapidly developing other uses for natural gas, and for the processing of gas into many merchantable products not dependent on pipelines for transportation and sale. The field prices may, and doubtless will vary, depending upon the uses to which particular gas may be intended to be put, the regularity and amount of the sales in question, and the size and type of the reserves placed behind such sales. And prices will also tend to vary from field to field for local reasons. But in essence the recognized field price seems to be reasonably ascertainable, and to afford a solid foundation, fair on an overall basis both to the industry and to its patrons. If such a criterion were to be adopted by the Commission, many of the difficulties which now confront that administrative body in this area of regulation would at once dissolve. Moreover, if this apparently sensible program should eventuate—as the result of action by the Commission itself, or as the result of further court action or perhaps of legislation—much of the existing confusion now perplexing this important industry would quickly be dissipated.

Mr. Wheat declared that the imperative task, as he sees the picture, "is to take, without delay every necessary step", to resolve these issues, once and for all, "on the basis of sound economics, in the interest of all concerned." He said that "if those affected by this situation halt or hesitate at this juncture, the only result will be to render the existing confusion worse confounded."

** Abstract of address by Carl I. Wheat before the Interstate Oil Compact Commission quarterly meeting, at Oklahoma City, June 16, 1945.*

The Pace of Victory Permits Only A Congratulatory Handshake!

American Industry well merits a decoration for its brilliant record in the Mighty 7th! But, as our newly decorated Pacific heroes quickly return to combat, so industrial leaders aren't resting on their laurels. ***Back into Bond action***—they are now busy consolidating recent Payroll Savings Plan gains!

First, many executives are now patriotically working to retain the substantial number of new names recently enrolled during the 7th War Loan. By selective resolicitation, they are urging all new subscribers to maintain Bond buying allotments.

Second, many are also employing selective resolicitation to urge every worker who increased his or her subscription in the 7th to continue on this wise, saving-more-for-the-future basis.

Help to curb inflationary pressures and harvest peacetime prosperity by holding the number of Payroll Savings Plan subscribers—and amounts of individual subscriptions—to the mark set in the Mighty 7th!

The Treasury Department acknowledges with appreciation the publication of this message by

AMERICAN GAS JOURNAL

★ *This is an official U.S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council* ★

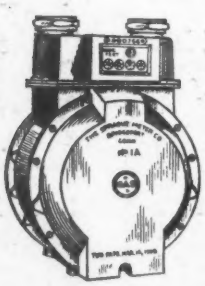
Watch for New Developments from Sprague

CARNEGIE LIBRARY
JUL 17 1945
PITTSBURGH

A great many improvements in all fields of endeavor will evolve from scientific advancements made in this war.

New chemicals, new metals, better plastics, synthetics and electronics will find application in civilian goods. It staggers the imagination to visualize what the future may hold.

In any event, you can be assured that SPRAGUE will continue to be in the forefront as it has been for the past forty years.



THE SPRAGUE METER COMPANY

BRIDGEPORT • CONNECTICUT